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ARIZONA MEDICINE
Journal of Arizona Medical Association

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Original ARTICLES

OBSERVATIONS ON ADRENAL CORTICAL THERAPY*

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Tucson, Arziona

THIS IS a report of observation on Adrenal Cortical therapy. An attempt has been made to evaluate two of the recently synthesized drugs** – Meticorten (Prednisone), and Meticortelone (Prednisolone), and to compare them to Cortisone and Hydrocortisone.

This study (see Table No. 1) covers 170 patients, 146 with chronic Rheumatoid Arthritis, 8 with chronic Rheumatoid Spondylitis with peripheral joint involvement, 5 with Systemic Lupus Erythematosus, 2 with Periarteritis. Nodosa, 1 with generalized Scleroderma, 1 with Dermatomysitis, 2 with chronic Metabolic Joint Disease (Gouty Arthritis), and 5 with Asthma (2 of these had chronic Rheumatoid Arthritis and Asthma). These patients received (see Table No. 2) one or more of the following Adrenocortical steroids or Corticotrophin: Cortisone, Hydrocortisone, Prednisone (Meticorten), Prednisolone (Meticortelone) and ACTH, either aqueous or one of the long acting gel or zinc preparations.

Observations were recorded as to (1) the relative strength of Hydrocortisone, Prednisone and Prednisolone compared to Cortisone; (2) the optimal maintenance dose of these steroids; (3) the minor and major undesirable reactions; (4) the laboratory and x-ray changes; and (5) the serious complications.

*Presented at the Am. Coll. Phy., Arizona Regional Meet., 4 Feb., 1956, Tucson, Ariz.
**Supplied for investigation by Schering Corporation, Bloomfield, N. J.

TABLE NO. I
SUMMARY OF DISEASES IN
170 PATIENTS REVIEWED

Chronic Rheumatoid Arthritis (includes 2 Juvenile Arthritis)	146
Chronic Rheumatoid Spondylitis (with peripheral involvement)	8
Systemic Lupus Erythematosus	5
Periarteritis Nodosa	2
Scleroderma, generalized	1
Dermatomyositis	1
Chronic Metabolic Joint Disease (Gouty Arthritis)	2
Asthma (2 with Rheumatoid Arthritis)	5

Relative Strengths of Steroids

The relative strength of these steroids, determined by their therapeutic effectiveness in the patients with Rheumatoid Arthritis, appeared to be as follows: Hydrocortisone, two to three times as effective as Cortisone, milligram for milligram; Prednisone and Prednisolone, five to seven times as effective as Cortisone, milligram for milligram.

The dose level of each steroid must be based on its relative strength, since for each steroid there were exhibited certain direct relationships between the size of the dose and its effects. These effects were: (1) the degree of suppression of the disease that might be obtained, i.e., the greater the amount of cortico-steroid given, the greater the amount of the suppression that

might be obtained; (2) the duration of the suppression (remission) when the drug was discontinued. Fairly long remissions of Rheumatoid Arthritis were induced by large doses of the steroids and were so reported sometime ago.(1,2) Now it appears that the remissions were in proportion to the dose and duration of administration. (3) the severity of the withdrawal symptoms, i.e., the larger the dose, the more severe the symptoms when the steroid was withdrawn, particularly if it was stopped abruptly, and not by step-like regression, and (4) the number and severity of untoward reactions, i.e., larger doses of the steroids might produce rather readily some major and minor reactions. Their severity appeared to be proportional to the dosage level.

The Average Optimal Maintenance Dose

The optimal maintenance dose should be one which has a moderately suppressive action and a minimal tendency to produce undesirable reactions. These doses appear to us to be as follows: for a 120 pound individual with Rheumatoid Arthritis, Cortisone 40 mgm., Hydrocortisone 20 mgm., Prednisone 7.5 mgm. and Prednisolone 7.5 mgm. These are total doses per day, and may be adjusted for the weight of the patient, and the amount of suppressive action desired.

We have not found the recommended dosage in the folder enclosed with the preparations to be desirable in the treatment of Rheumatoid Arthritis, i.e., giving large doses until total suppression of the disease is obtained, and then reducing the steroid. It does not appear to be therapeutically sound to produce signs of cortinism by large doses, then expect them to disappear as the amounts of steroid are decreased. Our aim has been to plan the optimal maintenance dose, institute patients on combined therapy,(2,4,5) and to reduce the dose if possible.

Minor and Major Undesirable Reactions

Some undesirable reactions, due to the administration of steroids, are listed in Table No. 3. It should be noted that some minor reactions, which are undesirable, occur in almost all patients receiving either adreno-cortical steroids, or corticortophin. Not all of these appear to be of great significance, but should alert one for the appearance of major reactions. Major undesirable reactions may include electrolyte "imbalance." This did not appear to be a problem with Prednisone and Prednisolone in this study. These two steroids were particularly effective

TABLE NO. II
THE NUMBER OF PATIENTS WHO RECEIVED EACH STEROID

Total Patients on Steroid	170
Receiving Prednisone (Meticorten)	83
Receiving Cortisone	75
Receiving Hydrocortisone	8
Receiving Prednisolone (Meticortelone)	4

TABLE NO. III
SOME UNDESIRABLE REACTIONS DUE TO STEROID ADMINISTRATION

Minor		Major
Edema	Muscle weakness	Peptic ulceration,
Weight gain	Paresthesias	Perforation and
Acne	Psyn. Disturbance	Hemorrhage
Hirsutism	Weight loss	Fractures
Pigmentation	Thrombosis	"Masking" of infection
Moon face	Diabetes	& Gold Toxicity
Capillary Fragility	Hypertension	Etc.
Hoarseness		
Etc.		

in the control of patients with edema. Negative nitrogen balance occurs with nearly all steroid administration, however, in this series it was not deemed necessary to utilize androgenic hormone, since it, too, has some therapeutic disadvantages. Hyperglycemia and glycosuria may occur. Hypercholesteremia, which appeared in some of these patients, is of interest. X-ray examination may reveal evidences of osteoporosis, fractures, peptic ulceration and tuberculosis.

Attention should be called to three of the major reactions (muscle weakness, paresthisas, and hypertension). These are present along with intermittent tetany, polydypsia, polyuria, and biochemical alteration in the blood, i.e., hypokalemia, hypernatremia and alkalosis in hyperaldosteroidism.(6) It is interesting to speculate if Cortisone, Hydrocortisone and ACTH administration may not produce some hyperaldosteroidism to account for these major reactions?

Another major reaction, the masking of infection, and of gold toxicity is well known. This undesirable reaction has therapeutic usefulness in conjunction with antimicrobial therapy in some diseases, i.e., tuberculosis, acute rheumatic fever, typhoid fever, brucellosis, trichinosis, viral hepatitis, mumps orchitis, and hypersensitivity states and with chrysotherapy in rheumatoid arthritis.(2)

The minor undesirable reactions were not analyzed in this study since they have been reported. However, two minor reactions appeared significant. First, increased gastric acidity and its symptoms were of frequent occurrence

with all these steroids. Peptic ulceration with bleeding or perforation may suddenly occur. Two such cases appeared in this series. It was also frequently necessary to employ anti-acids and dietary management in these patients presenting symptoms of hyperacidity. On the other hand, four patients with peptic ulcer (prior to steroid therapy) were successfully maintained on ulcer management, and Prednisone (Meticorten). In three of these patients, the ulcer disappeared and in one it was unchanged. The grave danger of steroid administration to patients with peptic ulceration must be considered before these drugs are given. Second, increased capillary fragility often was present in those patients who received Prednisone (Meticorten) usually manifested as purpuric spots in the skin of the lower arm, hands, and legs. This seemed to be a property of this steroid since no other cause could be demonstrated. Vitamin P and C* given orally had some preventive action against this phenomenon. Therefore, both increased gastric acidity and increased capillary fragility, may lead to major reactions. Examples of these are included under major reactions.

Major Reactions – Spontaneous Thrombosis

Spontaneous thrombosis occurred in 4 patients in this study as follows: One, a patient with chronic Rheumatoid Arthritis had a subendocardial thrombosis which appeared while he was on Meticorten. This patient made an uneventful recovery, and was continued on Meticorten. Two patients, one with Periarteritis Nodosa and one with chronic Rheumatoid Arthritis, had bilateral deep vein thrombosis of the calf (one received ACTH, the other Hydrocortisone). The fourth patient with chronic Rheumatoid Arthritis experienced a deep vein thrombosis of the calf three weeks postoperatively while on Meticorten. She had received fairly large doses of parental Cortisone preoperatively and postoperatively.

Major Reactions – Complications Requiring Immediate Surgery

Major complications requiring immediate operation appeared in three patients, two with peptic ulceration and perforation, and one with hemorrhage of the gastric omentum. One of these patients, a Rheumatoid Arthritic on cortisone, had a duodenal perforation with bleeding into the head of the pancreas. She was operated and recovered. The second patient had received prior ACTH the week before and a gastric ulceration and perforation occurred while on Meticorten. She died 78 hours postoperatively of a generalized peritonitis. Another patient, the third one in this group, exhibited signs and symptoms of a perforated viscus. At operation, a hemorrhagic gastric omentum was found adhered to the anterior abdominal wall, and abdomen full of fluid which was subsequently sterile on culture without evidence of a viscus penetration or perforation. Later it was learned that this patient had fallen striking her abdomen on the edge of a table approximately 3 days before operation; and since increased capillary fragility had been noted in patients on Prednisone, which she was taking, it was thought that possibly this was a traumatically induced hemorrhage due to increased capillary fragility of the vessels of the gastric omentum. She made an uneventful recovery and has been maintained on Meticorten.

Major Reactions – Diabetes Mellitus and Hypertension

One patient with Rheumatoid Arthritis developed hyperglycemia and glycosuria following the administration of Meticorten. This patient was successfully maintained on insulin and Meticortelone. Diabetes Mellitus was present prior to steroid therapy in one other patient with Rheumatoid Arthritis. In this patient the diabetes was increased by Meticorten but maintained without insulin on Cortisone.

Hypertension, not present prior to steroid therapy, appeared to five patients with Rheumatoid Arthritis. In two of these the tension was increased with Meticorten, but was normal with Cortisone and Hydrocortisone, while 3 patients exhibited an increased tension with ACTH, Cortisone and Hydrocortisone, but were normal with Meticorten.

Major Complications – Fractures

Fractures were observed in seven patients; 5 of these had Rheumatoid Arthritis and 2 had Systemic Lupus Erythematosus. The distribution of the fractures were as follows: Multiple spinal fractures, compression type – 3 patients; single fractures of spine – 2 patients; fracture of femur – 1 patient; and fracture of humerus –1 patient. The latter two occurred with minor trauma. Only one patient of this group received Meticorten. The others received ACTH or Cortisone.

*Hesperidin-c. (Hesper-c, National Drug Co., Phil., Penn.)

Major Complications – Death

In only one of the eight patients who died did the steroid appear indirectly responsible for the death. This patient died 78 hours post-operatively with a generalized peritonitis following a rupture of a gastric ulcer. Two patients died of their disease – Systemic Lupus Erythematosis; 2 patients as a result of Arteriorsclerotic Heart Disease, Bronchiectasis, and Pneumonia; and two died elsewhere, their causes are unknown. One died following a cerebral hemorrhage secondary to a thrombocytopenic purpura.

Summary of Major Reactions

The major reactions that occurred among the 170 patients due to the steroid, are summarized in Table No. 4. They were as follows: fractures, 7 patients; hypertension, 5 patients; spontaneous thrombosis, 4 patients; peptic ulceration, and perforation, 2 patients; hemorrhage of the gastric omentum, 1 patient, and death due (indirectly) to steroid, 1 patient.

TABLE NO. IV

SUMMARY OF MAJOR COMPLICATIONS OBSERVED IN 170 PATIENTS FOLLOWING STEROID ADMINISTRATION

Fractures	7 patients
Hypertension	5 patients
Spontaneous thrombosis	4 patients
Peptic ulcer with perforation	2 patients
Existing diabetes worsened	2 patients
Hemorrhage, gastric omentum	1 patient
Deaths due to drug	1 patient

Conclusions

In this study an attempt has been made to evaluate Cortisone, Hydrocortisone, Prednisone and Prednisolone with reference to (1) their relative strength, (2) the optimal maintenance dose, and (3) the production of undesirable major reactions in a group of 170 patients. No attempt has been made to record or discuss the therapeutic effect of these drugs in those diseases studied, since they have been previously reported.(1,2,3,4,5) It seems however, that the following remarks are warranted:

(1) The relative strength of these corticosteroids as compared to Cortisone are for Hydrocortisone, Prednisone and Prednisolone two to three, five to seven, and five to seven respectively, times greater than Cortisone, milligram for milligram.

(2) The optimal daily maintenance dose for an individual weighing 120 pounds with Rheumatoid Arthritis is for Cortisone 40 mgms., for Hydrocortisone 20 mgms., and for Prednisone and Prednisolone 7.5 mgms., and 7.5 mgms.

(3) Major undesirable reactions may result from the employment of these corticosteroids. This property is shared by both Predinisone and Predisolone.

(4) Prednisone and Prednisolone appear to possess the desirable suppressive qualities of both Cortisone and Hydrocortisone, and since neither rednisone nor Prednisolone appear to disturb the electrolyte balance, both of these steroids seem preferable to Cortisone and Hydrocortisone.

BIBLIOGRAPHY

1. Hench, P. S., Slocumb, C. H., Polley, H. F., and Kendall, E. C., Jr.: "Effect of Cortisone and Pituitary Adrenocorticoptopic Hormone (ACTH) on Rheumatic Diseases" – Am. Med. Asso., Vol. 144, No. 16, Dec. 1950.

2. Thompson, H. E., and Rowe, H. J.: "Cortisone and Gold Therapy in Chronic Rheumatoid Arthritis" – An. Int. Med., Vol. 36, No. 4, April 1952.

3. Slocumb, C. H.: "Symposium on Certain Problems Arising from Clinical Use of Cortisone: Rheumatic Complaints During Chronic Hypercortisonism and Symptoms During Withdrawal of Cortisone in Rheumatic Patients" – Prac Staff Mee.t, Mayo Clinic 28: 655, 1953.

4. Margolis, H. M. et al.; "Effects of Prednisone (Meticorten) on Manifestations of Rheumatoid Arthritis, J. A. M. A., Vol. 158, No. 6, June 1955.

5. Spies, T. D. et al; "Prednisone and Prednisolone As Therapeutic Agents" – J. A. M. A., Vol. 159, No. 7, Oct. 1955.

6. Conn, J. W. and Louis, L. H.: "Primary Aldosteronism, A New Clinical Entity" – An. Int. Med., Vol. 44, No. 1, Jan. 1956.

7. Spenk, W. W.: Adrenocorticotropic Hormone and Adrenal Steroids in the Management of Infectious Diseases" – Ann. Int. Med. – Vol. 43, No. 4, Oct. 1955.

AN UNUSUAL CAUSE OF INTESTINAL OBSTRUCTION

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INTESTINAL obstruction is a fairly common problem to the surgeon but in this instance the cause of the intestinal obstruction, particularly the mechanism by which it was produced, warrants reporting.

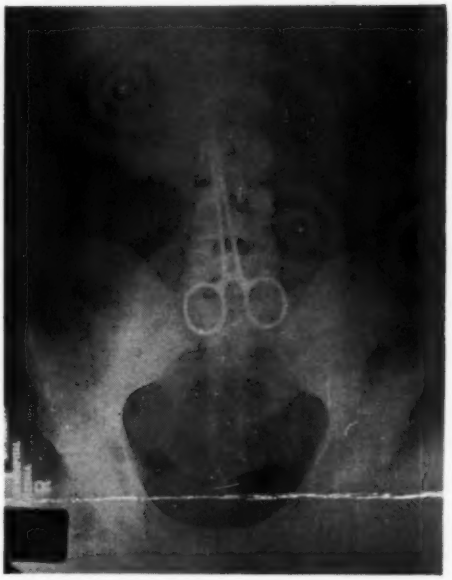
CASE REPORT: M. M., age 27, white male, was admitted to Good Samaritan Hospital, Phoenix, on 11 April, 1954.

He complained of sudden onset of generalized abdominal pain and vomiting beginning about four hours before admission. Some relief had been obtained by morphine. His past history included a gastrectomy for a duodenal ulcer done in a hospital in another state, approximately three weeks before the onset of the present illness. He stated that his postoperative course had been uneventful, that he had been able to eat fairly well and was regaining his strength rapidly, and had had no abdominal pain until the sudden onset as described above.

Examination at that time, showed a well developed, well nourished, young white male in mild shock, lying on his left side with knees and thighs flexed. Any change in this position, increased the intensity of the pain. The abdomen was firm, very slightly distended, silent, and moderately tender, especially in the mid-abdomen.

Urinalysis was negative, blood showed a slight leukocytosis. Flat plate of the abdomen showed a foreign body desembling a large Babcock forceps lying in the mid-abdomen, its point in the epigastrium, its handle at the brim of the false pelvis, and a single distended loop of small intestine.

Laparotomy, done approximately twelve or fourteen hours after onset of the acute pain, showed a moderate amount of sero-sanguinous fluid free in the abdomen, a number of adhesions particularly about the upper abdomen, and a long Babcock forceps with its point apparently attached to a portion of the gastrohepatic ligament, its handle pointing down into the mid-abdomen. Herniated through one handle of the forceps, was an eighteen inch long loop of small intestine, which was grossly distended with fluid and air, and, together with its mesentery which also had been pulled through



1. Preoperative x-ray of abdomen.

2. Resected gangrenous intestine – fixed. Note both ends of the intestine protrouding from single loop of handle of forceps.

the handle, was completely gangrenous. There was moderate distension of the small intestine proximal to this point of obstruction.

The forceps was gently loosened allowing its point to be disengaged from the gastrohepatic ligament. The afferent and efferent

limbs of the strangulated intestine were then divided between clamps, the mesentery divided and ligated and the Babcock forceps together with its captive strangulated intestine removed intact. An aseptic oblique end to end anastomosis was done, the defect in the mesentery closed, and the abdomen closed without drainage.

The patient was much more comfortable two hours after the operation than he had been before. He enjoyed a smooth postoperative course exhibiting peristalsis and passing flatus at forty eight hours, at which time his gastric suction was discontinued. He was ambulated about twenty-four hours postoperatively, and was discharged with a well healed wound on about the eighth postoperative day.

He has enjoyed good health since, apparently, as his local lawyer stated shortly after an out-of-court settlement had been made, that it had been a perfect medical-legal case from a plaintiff's lawyer's viewpoint, except, unfortunately, the plaintiff had suffered no permanent disability.

SUMMARY: A case of a strangulated, intestinal obstruction due to herniation of small intestine through the handle of a Babcock forceps left in the abdomen three weeks previously during the course of a subtotal gastrectomy has been reported. The loop of small intestine which was strangulated through the handle was gangrenous necessitating resection and anastomosis.

COMPLEX DYSLALIA

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COMPLEX dyslalia, a severe articulatory failure, is the most common major speech disorder. It has accounted for 39.5 percent of the speech defectives seen in the writer's office over the last fifteen years. In the published nomenclature of speech pathology this disorder is designated as infantile perseveration, articulatory failure, delayed speech and other similar terms. Many years ago, however, I chose the term complex dyslalia as a reference to this type of speech disorder because it is characterized by a complexity of substitutions, omissions, additions and distortions of the sounds of speech.

Individuals who evidence this type of failure have a normal quantity of speech but its quality ranges from bare intelligibility to complete unintelligibility. Such language is in effect a foreign one since the articulatory errors are so consistent that it can be learned and usually is understood quite readily by the mother and by siblings near the same age of the defective and who therefore are closely associated with him in play activities. The father and older siblings who see less of him usually do not understand him. In one such case, that of a five year old female, twenty-five of the sounds of speech were involved. These included all of the four semivowels and all twenty-one of the consonants used in American speech. According to the Travis scale of values assigned to these sounds, this child's speech was 77.6 percent defective and all speech efforts were totally unintelligabile to me. At another age extreme is the case of a twenty-year old female who had sixteen defective sounds, resulting in 42 percent defective speech and bare intelligibility.

Similar articulatory symptoms are to be found in other speech disorders such as speech of the hard of hearing, the paralytic, the cleft palate, the mentally retarded and others of easily discernible organic etiology. The complex dyslalic, however, differs from all these in one outstanding respect: physical and mental examinations reveal no apparent cause for the speech failure. Most victims of this disorder are normal and many are superior in all physical and mental activities other than that of speech.

The fact that examinations are negative in these cases lead many in the field to label them as purely functional. Others argue that the development of speech has come to be a normal process, and that if one experiences such a drastic failure in the process there is at least a possibility that the failure is due to physical deviations; deviations which are so located or so mild that medical science has thus far been unable to discover them but which nevertheless may exist. The failure of agreement as to cause of complex dyslalia exists despite the fact that, as in the case of stuttering, there has been much research and speculation concerning it. Some of the theories as to cause of the disorder follow.

1. Psychoneuroses, resulting in mental confusion which renders the child unable or unlikely to perform the visual, the auditory or the mental concentration necessary for normal speech development.

2. Physical and mental shock which temporarily halt development of speech. When it is later resumed the child has passed certain developmental stages without which normal speech is impossible.

3. Lack of encouragement during early speech efforts. The young child's environment must give favorable responses to these efforts since such responses are the rewards which spur him on to ultimate speech normalcy.

4. Retarded maturation of neuromuscular coordination, which perpetuates infantile speech characteristics beyond the point at which continued improvement is possible.

5. Bilingualism, with resultant speech confusion in those children whose speech sensivity is insufficient to cope with more than one language at the same time.

6. Short auditory memory span. Auditory memory span is the number of speech sounds one can recall, in order, after they have been presented to him at one second intervals. In the absence of a normal span he is incapable of recalling sufficient numbers or sequences of sounds for normal progress in word building and acquisition. Normal development of the span is said to be a function of the auditory association area of the dominant hemisphere, and a mild dysfunction of this area is thought to result in a short auditory memory span. It is thought, further, that the resultant speech sound confusion constitutes complex dsylalia. As in the case of auditory aphasia, caused by more severe lesions of this area, there is no loss in hearing but there is a loss in the associative function which enables the individual to store imagery of, and accurately direct motor areas in the oral production of the speech he hears. Dysfunction of the area may be due to damage, developmental failure or heredity, the latter being suspected since short auditory memory spans and complex dyslalia often "run" in families.

In an effort to arrive at a statistical figure, I made an attempt to derive from my files the incidence of possible cortical damage or developmental failure in all cases of complex dyslalia. The task proved too great for the time at my disposal, however, and had to be abandoned. Suffice it to say that while there were occasional exceptions, a great majority of the histories studied revealed one or more of the following: breech, difficult and immature births; Caesarean section, congenital anemia, kernicterus, convulsions and/or cyanosis at or shortly after birth; toxemia of pregnancy, severe anemia and other serious illnesses in the mother during pregnancy. The histories also revealed early incidence (three years or under) of accidents involving severe head injuries, early whooping cough and other early diseases accompanied by high temperature. In the seventeen cases of complex dyslalia presently being treated at my office, fourteen evidenced one or more of the preceding factors, two evidenced positive family speech history and one was negative so far as possible etiological factors could be determined. One hundred percent of these seventeen have substandard auditory memory spans in terms of norms established by another writer.

It is admissible that the factors here presented may be coincidental and of no significance in complex dyslalia without a control group of normal speaking individuals. The persistency of these factors, however, may lend foundation to their significance. Examination of hundreds of such cases and observations of their utter failure in direction and control of "speech" masculature, which most children accomplish so easily, cause me to suspect that the failure lies on a directional or cortical level. It is agreed that other theories as to cause listed here may operate in some speech failures, but their significance in such a severe failure as complex dyslalia appears questionable. Less than two hours before the present moment of writing I saw a six year old negro male for speech examination. He was brought in from Vicksburg, a small town one hundred and twenty miles from Phoenix, by his white school teacher. The teacher was rather sketchy on medical, developmental and family history, but information which may be of some significance in this case is as follows: (1) there are four other children, all of whom have normal speech; (2) this child did not walk until three years but has an exceptional physique and now exhibits normal muscular coordination in all activities other than speech; (3) he is mentally normal; (4) his hearing is normal; (5) he has developed a few intelligible words in

only the last year; (6) his mother is said to have used excessive sleeping tablets while carrying this child; (7) he was "dropped" at six months of age; (8) he has complex dyslalia of a severity which renders his speech totally unintelligible. This child is a major school disciplinary problem, but small wonder since he cannot make anyone understand him and all his fellow pupils think he is mentally defective. How does this child differ from the other four siblings? Does the difference lie in possible head injury sustained when he fell from his mother's arms to the floor and/or in the mother's over dosages of sedatives during pregnancy? These were the only distinguishing factors I was able to determine from the information available.

The type of therapy employed in my practice with these cases thus far has resulted in normal speech in those who have continued for the prescribed length of time. Range of time required has extended from six to twenty-four months, though the usual period is twelve to eighteen months, with individual therapy. At best the procedure is a long and difficult one, and those who propose to secure appreciable relief from this or any other major speech disorder in short term speech clinics, and especially with the group therapy usually employed, do so out of ignorance of the magnitude of the problem, or, being aware of the magnitude, out of professional dishonesty. I have long been disturbed about such programs and believe their only justification lies in their being held in college or university clinics in order that students of speech pathology may observe a variety of disorders and the methods of treating them. Any benefit to the speech defective "guinae pig" is purely incidental and accidental. Leading parents of these children to hope for appreciable improvement in such programs either lulls them into a sense of false security in the belief that all is being done for the child that can be done, or creates a distrust in the ability of the profession as a whole. My statements concerning this matter are based upon observation of many children who evidenced the futility of such programs and upon my knowledge of the magnitude of correcting defective speech.

Demonstration of the magnitude of the problem is not difficult. Let us assume the case of a six year old complex dyslalic. Let us assume that his speech failure involves the "s, z, r, l, k, g" and the two "th" sounds. According to the Travis scale, the value of these eight sounds in running speech presents a defective speech picture of 41.5 percent. Assuming that he has a normal quantity of speech, as such cases usually do, his vocabulary as a six year old will number approximately 2562 words. And in terms of our defective speech percentage of 41.5 his vocabulary will contain approximately 1064 defective words, presenting in itself a picture which only the foolish would promise to change appreciably in a few weeks' time. The number of defective words would be somewhat less than 1064 since a given defective sound often occurs more than once in a single word. However, even an allowance for such, which is impossible to calculate, would not reduce the figure sufficiently to alter its function in this discussion. Magnitude of the problem is further demonstrated by noting the steps required in correcting a defect of speech. Assuming that involved organic disorders have been treated or removed, the steps are as follows: (1) secure correct production of all defective sounds as isolated units; which may require months in cases of cleft palate, anacusis, hypacusis, paralysis, etc.; (2) secure the sounds in nonsense syllables; (3) secure them in simple words; (4) in longer words; (5) in short, simple phrases; (6) in short sentences; (7) in long sentences; and finally, (8) in running speech. And the speech of our fictitious six year old has been corrected only when he consistently uses, in running speech, all eight of the previously defective sounds normally in all 1064 of the previously defective words. Correction of such a case would require approximately six to eight months.

Normal production of speech requires highly coordinated reflexive activity of the organs and systems used therein. The production of a word containing five sounds requires five series of such activity. Correction of defective speech involves not only development of new reflexive patterns, but it also involves literally tearing out by the roots all old patterns of defective speech production. The problem in major speech disorders is as difficult and prolonged as if one attempted to help a child completely forget one language and insert in its place another. A recent report on the cleft palate speech clinic at Northwestern University included the statement that many of their cases require several years for correction and often cost as much as $5,000 per case. In a six year old child, a simple

lisp involving the "s and z" sounds constitutes 13.2 percent defective speech and results in defective production of approximately 338 words. Correction of these two sounds, probably the most exasperating ones the speech therapist encounters, requires approximately four months. A seven year old's failure to develop an "r" sound resulted in 9.3 percent defective spech and defective production of approximately 300 words. Despite a high degree of intelligence, interest and cooperation in the procedure, this child required three and one-half months for correction. There is no short, easy method of correcting even so-called "minor" defects of speech and parents should not be disillusioned into believing there is.

Since increasingly smaller numbers of complex dyslalia are seen in those beyond twelve years of age, many individuals apparently "outgrow" the disorder. However, varying numbers of defective sounds have been observed in adults ranging up to sixty years, and in many cases it definitely was known that the sounds were carried over from early complex dyslalia and in other cases this apparently was true. Early treatment of such cases, then, appears to be the wise procedure. Not only will this insure complete recovery from the disorder but it will safeguard against psychological trauma which may be suffered if it is allowed to persist throughout childhood. On numbers of occasions two and three siblings have required correction of complex dyslalia, and often it has appeared that a younger child's difficulty was based purely upon imitation of an older one; which indicates the wisdom of correcting an older child's speech not only for his own sake but for the sake of a younger one as well.

Most cases of complex dyslalia have a history of delayed speech. A diagnosis of the latter indicates that while the child has not yet developed speech, his present failure is a temporary one and speech eventually will develop even though he has no assistance. However, many cases of delayed speech fail in normal articulation and thereby develop into complex dyslalia. These two disorders are thought to have a common cause, the distinction being that the etiological factors are of a more severe nature in delayed speech. Not only does it seem wise to seek early treatment of complex dyslalia, but the parent of a child three years and upward who has not developed speech should be on the alert for complex dyslalia. Seeking an evaluation of her child's speech when she suspects that it is not developing normally may prevent its becoming fixated into a major problem.

SYNERGISM BETWEEN MEPERIDINE (DEMEROL®) AND SCORPION VENOM

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MORPHINE, for some years, has been recognized as an undesirable therapeutic agent for use with scorpion venenation (Kent & Stahnke, 1939). Physicians who have had considerable experience with scorpionism have remarked about the increase in convulsive activity following the administration of morphine and have expressed the opinion that death which followed in some of these cases should not be attritubed to the scorpion venom alone but rather to the combined action of these agents. When similar atypical reactions were reported following the use of meperidine, we made a pilot test of this combination, the results of which suggested a synergistic effect between Demerol® and the venom of the scorpion, **Centruroides sculpturatus** Ewing (Stahnke, 1954).

Since its discovery by Eisleb and Schaumann (1939), the use of meperidine as an analgesic agent in medical practice has increased greatly. Since scorpion venenation is frequently accompanied by intense pain, Demerol® is often one of the first therapeutic agents considered. Among more than 150 clinical reports on scorpion venenation, submitted to this laboratory by the medical profession, we noticed an increase in the atypical reactions associated with the use of Demerol®. With this condition existing, it was

1. Grateful acknowledgement is made of the technical assistance of D. Doro, laboratory technician and A. E. Dammann, Asst. Director, P.A.R.L.

felt that a more complete study of this apparent phenomenon would be worthwhile.

PROECDURE: The statistical design of this investigation followed the method of Thompson and Weil (Thompson, 1947; Thompson & Weil, 1952; Weil, 1952; Weil et al, 1953). Rats were again the laboratory animals of choice because of the close parallel between their reactions to the venom with those of man. (Stahnke, 1938, 1941, 1950). The LD_{50} was determined for lot 97.1 of **C. sculpturatus** venom, a lyophilized preparation which had been taken from living scorpions by electrical stimulation(2). The venom was reconstituted with distilled water to a concentration of 5 mgm/ml. The LD_{50} was also determined for an aquenous solution of Demerol®(3) with a concentration of 50 mgm/ml. The test for synergy between Demerol® and the venom was sought through two approaches: First, by keeping the quantity of meperidine constant while the dosage level of venom was varied. In the second approach, the venom was kept constant while the dosage levels of meperidine varied. As a result of our previous experience, we chose the Demerol® constants at 50 mgm/kgm and 100 mgm/kgm respectively. The venom constant was chosen at 0.5 mgm/kgm, or approximately one-half rat-LD_{50}. All injections were made subcutaneously in the groin. Since the LD_{50} of meperidine for the rat varies from 200 mgm/kgm body weight when given subcutaneously, to 34 mgm/kgm via the intravenous route (Barlow and Lewis, 1951)(4), great care was exercised to be sure that the latter route was not being used inadvertently. In order to prevent the possibility of a direct reaction between chemical agents, injections were given for each in opposite groins, with a short interval between injections.

RESULTS: The data from all tests are given in the table below. The Da (first level dosage) is in mgm/kgm, as are also the LD_{50}'s and the Confidence Limits. Demerol®-constant I is 50 mgm/kgm and Demerol®-constant II is 100 mgm/kgm. The venom constant is 0.5 mgm/kgm. In each case n=4, K=3, and R=1.26, except for the Demerol® with venom-constant, in which R=2.

Agents	Da	r-values	LD-50	95% Confidence Limits
Venom only	0.57	0,0,1,4	0.96	0.85 to 1.09
Demerol(R) only	160.0	0,0,3,4	239.8	213.6 to 269.1
Venom plus Demerol(R)-constant I	0.45	0,0,3,3	0.714	0.575 to 0.888
Venom plus Demerol(R)-constant II	0.29	0,1,4,4	0.387	0.345 to 0.435
Demerol(R) plus Venom-constant	20.0	0,1,2,4	67.27	39.62 to 114.2

DISCUSSION: The above data indicate that whereas the median lethal dose of **C. sulpturatus** venom alone is 0.96 mgm/kgm. in the rat, when 50 mgm/kgm of meperidine is administered, the median lethal dose of the venom drops to 0.714 mgm/kgm; when 100 mgm/kgm, of meperidine are administered, the median lethal dose drops to 0.387 mgm/kgm. Conversely, we see that whereas the median lethal dose of meperidine alone is 239.8 mgm/kgm, yet in the presence of one-half median lethal dose, a quantity which is well out of range of the venom confidence limits, the median lethal dose of the meperidine drops to 67.27 mgm/kgm. That there is very little, if any probability, for these results due to chance is obvious from the 95% confidence intervals obtained.

These data take on medical significance when one considers the extreme sensitivity of the human organism to **C. sculpturatus** venom. Under electrical stimulation the average scorpion yield of venom is approximately 0.15 mgm. This result is obtained from many thousands of scorptions. Tests have also indicated that under natural-sting conditions the scorpion does not give up this much venom. Yet, according to our State vital statistics, a 16-year old white male child of good health succumbed to the sting of one scorpion. Let us consider a hypothetical case. In order to stay on the conservative side, let us assume that a scorpion, in an incident that terminated in a fatality, injected as much as 0.20 mgm into a child of 20 kgm (44 lbs.). This would give an LD of only 0.01 mgm/kgm. In the case of the rat, the LD_{50} is 0.96 mgm/kgm. but with 50 mgm/kgm. of meperidine this drops to 0.714 mgm/kgm. and with 100 mgm/kgm. the venom LD_{50} becomes 0.387 mgm/kgm. or approximately one-third the normal. In other words, the ratio of lethal activity between meperidine to venom, in the rat, is 0.714:50 and 0.387:100. If we considered the species specificity of the human organism, the LD for the venom changes from 0.01

2. This technique gives a venom uncontaminated by other body tissues, a condition not realized by the common procedure of grinding dried telsons followed by either aqueous or glycerine extraction.

3. Demetrol(R) hydrochloride received through the courtesy of Winthrop-Sterns, Inc.

4. LD-50 200 mgm/kgm (95% Conf. Limit 167-240). LD-50 34 mgm/kgm (C.L. 28-41).

mgm/kgm. to 0.0074 mgm/kgm. and 0.004 mgm/kgm. Applying the lethal ratios the effective dosage of meperidine would be 0.52 mgm/kgm. and 1.03 mgm/kgm. For a 20 kgm. (44 lb.) child, this would amount to 10.4 mgm. to 20.6 mgm. of Demerol® — a dosage that could prove fatal but not act in an analgetic capacity. "As a rule clinically, 25 mg. of Demerol® would exert a minimal analgetic response." (Winthrop 1956). If we consider the results obtained when the venom was constant we have a lethal ratio of 0.5:67.27. The human venom LD becomes 0.0052 mgm/kgm. Applying the lethal ratio, the effective dosage of meperidine would be 0.70 mgm/kgm. For our hypothetical 20 kgm. individual, this would make a 14.0 mgm. dosage.

Let us not lose sight of the fact that the above is a hypothetical situation. The problem of species specificity can only be finally solved with the use of the species in question in bioassay. At the same time, we should, likewise, not lose sight of the clinical evidence in favor of the results obtained. In evaluating clinical material, one word of caution is in order, i.e. two non-lethal scorpions are frequently mistaken for **C. sculpturatus** by both layman and physician. One such case investigated was reported by the author (Stahnke, 1950).

Although Nalline® (Nalorphine hydrochloride) has been reported to be a specific antidote for Demerol® (Radoff & Huggins 1951; Eckenhoff, Elder & King 1952), initial tests do not indicate this property in the presence of **C. sculpturatus** venom; in fact it too seems to act synergistically.

CONCLUSION: The evidence presented here seems to be positive enough to place Demerol® in th risk class of analgetic agents when used in conjunction with **C. sculpturatus** scorpion venenation. If a patient were suffering from a bite or sting, and the offending animal had not been identified, Demerol® would be contraindicated. Since **C. sculpturatus** venom is a neurotoxin and one of the lethal factors in Gila Monster (**Heloderma suspectum** Cope) and rattlesnake (**Crotalus**) venom is neurotoxin, neither meperidine or morphine would be desirable analgesic agents, especially during the first 24-hours of venenation. When treating any type of envenomization, it is well to keep in mind that venoms in general are complex organic compounds, the exact composition of which is unknown in most cases. Therefore, the pharmaceutical principal of chemical compatibility should be constantly kept in mind.

SUMMARY: Data have been presented to show definite synergistic activity between **C. sculpturatus** scorpion venom and meperidine in rats. The possible application of these findings to human cases of scorpion venenation was also indicated together with a word of caution regarding the use of either morphine or Demerol® in any case of neurotoxic envenomization. The importance of the principle of chemical compatibility in the treating of venenation was mentioned.

LITERATURE CITED

1. Barlow, O. W. and Lewis, J. R., 1951. **Jl. Pharmaceutical & Experimental Therapeutics,** 103 (2):148.
2. Eckenhoff, J. E., Elder Jr., J. D., and King, B. D. 1952. **American Jl. Medical Science,** 223:191-197.
3. Eisleb, O., and Schaumann, O. 1939. **Deutsche Med. Wchnschr.,** 65:987.
4. Kent, M. D., Melvin Lloyd and Stahnke, Ph.D., Herbert L. 1939. **Southwestern Medicine,** (23)4:120.
5. Radoff, L. M., and Huggins, S. E., 1951. **Proc. Soc. Exper. Biol. & Med.,** 78:879-80.
6. Stahnke, Herbert L., 1938. **Science,** 88(2277):166-7.
7. 1941. **Southwestern Medicine,** (25)(7):202-4.
8. 1950. **Arizona Medicine,** 7(3):23-29.
9. 1954. **Arizona Medicine,** 11(2):51-2.
10. Thompson, Wm. R., 1947. **Bact Rev.,** 11:115-145.
11. Thompson, Wm. R., and Weil, Carrol S., 1952. **Biometrics,** 8:51-4.
12. Weil, C. S., 1952. **Biometrics,** 8:249.
13. Weil, C. S., Carpenter, C. S., & Smyth, H. F., 1953. **American Industrial Hygiene Association Quarterly,** 14:3.
14. Winthrop Laboratories, personal communication, March 23, 1956.

PHOENIX *Clinical* CLUB

The Case History in this discussion is selected from the Case Records of the Massachusetts General Hospital, and reprinted from the New England Journal of Medicine. The discussant under Differential Diagnosis is a member of the staff of the Massachusetts General Hospital. The other discussants are members of the Phoenix Clinical Club.

MASSACHUSETTS GENERAL HOSPITAL PRESENTATION OF CASE 39352

A FORTY-FOUR-YEAR-OLD woman was admitted to the hospital because of a mass in the left clavicle.

About six months before admission the patient began to notice pain, stiffness and limitation of abduction in the left shoulder that were thought to be "rheumatic." The removal of several teeth was followed by considerable improvement in the shoulder, but some stiffness still remained. Stiffness had gradually become worse with recurrence of pain and limitation of abduction and elevation. For about four months she had been aware of a lump at the medial end of the left clavicle that had gradually increased in size. On occasions it was tender.

The past history and review of the systems were otherwise noncontributory.

Physical examination showed a well developed and well nourished woman. The examination was not remarkable except for a hard, fusiform, lemonsized, nontender mass involving the medial end of the left clavicle.

The temperature, pulse, respirations and blood pressure were normal.

The urine was normal. It did not contain Bence-Jones protein. Examination of the blood showed a hemoglobin of 13.6 gm. and a white-cell count of 9100 with 75 per cent neutrophils, 13 per cent lymphocytes, 9 per cent monocytes and 3 per cent eosinophils. The serum total protein was 6.2 gm., the calcium 10.9 gm. the phosphorus 3.1 mg., and the alkaline prosphates 3.8 units per 100 cc. A rotentgenogram of the chest was normal. Examination of the bones revealed almost complete destruction of the sternal end of the left clavicle, the bone in this region being moth eaten and slightly enlarged. There was also a periosteal reaction. The right side of the fifth cervical vertebra showed similar, less marked changes. The body of the vertebra was not deformed, and there was no soft-tissue thickening. The skull, pelvis, other long bones and the remainder of the spine showed normal kidney outlines.

On the second hospital day an operation was performed.

Dr. Joseph Bank

The diagnosis and treatment of malignant bone tumors is bewildering even to the experts. The multiple classifications of bone neoplasm add to the confusion. Accurate classification is impossible on clinical grounds. Primary malignant bone tumors are rare and few pathologists can qualify as experts in this field.

History and physical examination are important but seldom offer more than a clue. X-rays are, of course, indispensable, but they too do not afford an accurate diagnosis. The x-ray opinion of the most experienced radiologist must be supported by biopsy.

Laboratory studies should be utilized but are seldom of diagnostic value. Elevation of the acid phosphatase determination indicates metastatic carcinoma of the postate. Alkaline phosphates determinations are non-specific since elevation is merely an index of bone production. In multiple myeloma the total proteins are elevated, particularly the globulin fraction resulting in a reversal of the albumin globulin ratio. Bence Jones proteins are occasionally found in the urine, but this is of little value. The white cell count may be of value when an early bone infection shows x-ray characteristics suggesting a bone tumor. But early bone infection also suggests an early Swing's tumor which is associated with leukocytosis and low grade fever.

An adequate biopsy should be performed as a major operation and the excised specimen should include periosteum, a portion of the osseous tumor mass, bone and marrow. Frozen section studies have only a limited value in the problem of bone neoplasm. The delay in definitive treatment following biopsy is fully justified because of the increased accuracy of diagnosis and avoidance of unnecessary radical surgery.

Furthermore, the pathologist must have the benefit of the history, laboratory findings and x-ray, as well as the pathological specimens.

A simple, practical classification may be as follows:

1. From cartilage – chondrosarcoma
2. Derived from bone – osteosarcoma
3. Derived from connective tissue
   a. Fibrosarcoma
   b. Malignant giant cell tumor
4. From menchymal connective tissue or possibly reticuloendothelial system: Ewing's sarcoma
5. Derived from hematopoietic tissue:
   a. Multiple myeloma
   b. Reticulum cell sarcoma
   c. The leukemias
   d. Hodgkin's disease

Chondrosarcoma is usually encountered in young adult life, but may also occur in adolescence. When occurring in later years, they develop secondarily to preexisting benign cartilaginous tumors, such as endochondroma or osteochondroma. The bones most commonly involved are the long bones at their extremities, the innominate bones and the ribs. Roentgenologically the central chondrosarcoma may be characterized by irregular mottling and spotty partial calcification in a radiolucent cavity and in which there is some cortical expansion and beginning erosion of the overlying cortex.

Osteosarcoma usually develops in the adolescent or young adult between the ages of ten and twenty-five. In older persons it occasionally develops in preexisting bone disease such as Paget's disease. It usually develops in the ends of long bones in the metaphyseal region. It is commonest in the lower end of the femur, the upper end of the tibia, and the upper end of the humerus. Roentgenologically these tumors may be osteolytic or osteoblastic. In the typical well developed tumor there is usually evidence of bone destruction with distinct periosteal tumor mass. The so-called "sun-ray" appearance resulting from perpendicular striations of periosteal new bone has been erroneously considered pathognomonic of osteosarcoma. It may be found elsewhere as in metastatic carcinoma and Ewing's sarcoma.

Fibrosarcoma may occur at any age, but most commonly in early adult life. It may occur in any bone and may be periosteal or endosteal in origin. It is more frequently primary in the medullary cavity. Roentgenologically the central fibrosarcoma is characterized by a cyst-like area with indefinite margins that eventually show erosions and destruction of the overlying cortex. The periosteal type is characterized by a soft tissue shadow overlying the cortex with erosion and destruction of the adjacent bone.

Malignant Giant Cell Tumor is usually encountered in adults and exists in a benign as well as malignant form. The malignant giant cell tumor is rare and may develop in a tumor previously considered benign. The common sites are the lower end of the femur, the upper end of the tibia and lower end of the radius. The Roentgen appearance is that of a multilocular cystic area located in the end of the long bone. It used to be considered pathognomonic, but is not necessarily so.

Ewing's Sarcoma has an age incidence of ten to twenty-five, and it usually occurs in childhood. Usually it occurs in the shaft of long bones but may occur elsewhere. There is no characteristic x-ray appearance. The so-called "onion peel' appearance that results from superimposed layers of periosteal new bone is no longer considered diagnostic.

Multiple Myeloma represents a tumor of adult life between the ages of forty to sixty. The skeletal lesions are widespread and every bone in the body may become involved. In the classical case, x-ray reveals multiple osteolytic lesions in the long bones and ribs which, when of sufficient size, will show erosion and thinning of the overlying cortex. Pathological fractures are common. The skull may show numerous punched-out areas of rarefaction. These classical symptoms may be absent in the early stage when it may show only a diffuse osteoporosis of the spine. In this disease the diagnosis may be established on laboratory data such as serum protein, and study of bone marrow obtained by sternal puncture. When the disease is limited to one bone the diagnosis may be established only by biopsy.

Could this lesion be metastatic? That is possible. But the protocol give no clue of any primary carcinoma. There was no anorexia, weight loss or cachexia. Primary malignant tumors of bone are principally a disease of younger age groups. Multiple myeloma and metastatic carcinoma appear in the later ages.

Generalizations cannot, of course, make a diagnosis in this case, but that is all we have

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[1]Albertson, H.A. and Trout, H. H., Jr.: *Antibiotics Annual* 1954-55, Medical Encyclopedia, Inc., New York, N.Y., 1955, pp. 599-602.

[2]Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid*, pp. 603-607.

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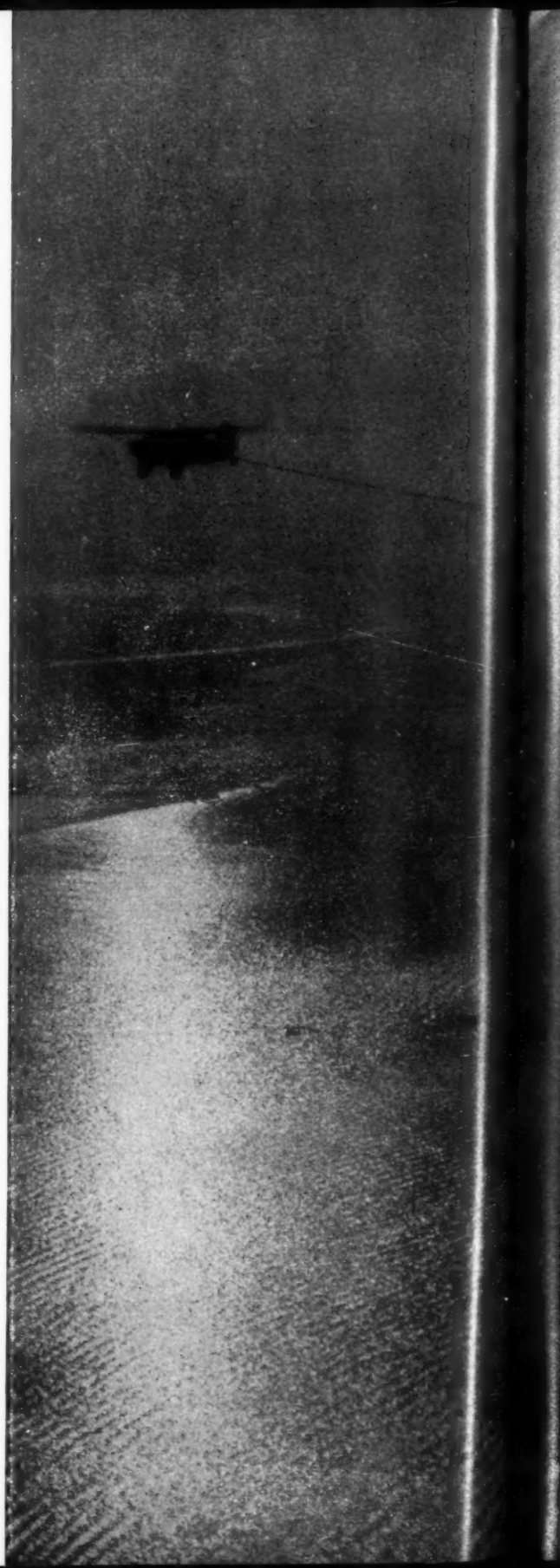

ACHROMYCIN ACHROMYCIN

to go on in the absence of a biopsy.

On the basis of these generalizations, I should make a diagnosis of myeloma.

Howard C. Lawrence, M. D.

Geschickter grossly segregates tumors of bone as to (a) whether they occur as single or multiple lesions, (b) whether the patient is under or over 20 years of age, and (c) whether the lesion is osteolytic or osteoplastic. I shall assume that the pathology in the clavicle and vertebra are the same. We, therefore, have to diagnose osteolytic lesions occurring in a 44-year old woman. This screening process quickly brings metastatic carcinoma and multiple myeloma into the field of major interest.

I have considered but am rejecting the following diagnoses:

(1) Primary chondrosarcoma. This process usually occurs in patients under 30, and the x-ray findings in our patient do not agree with those characteristically seen in this disease.

(2) Osteogenic sarcoma or secondary chondrosarcoma. In this malignancy the x-ray usually shows the original benign exostosis or chondroma on which is superimposed the malignant sign of a fuzzy peritosteal shadow.

(3) Osteolytic forms of osteogenic sarcoma. The age range is usually in the 10 - 20 year group; it is most prevalent in the long bones; and characteristically the cortex is destroyed without expansion.

(4) Bone cyst. This is certainly not a reasonable consideration because the history, physical, and x-ray findings are not typical.

(5) Benign giant cell tumor. This warrants consideration because it is a lytic lesion which characteristically occurs at the epiphyseal end of the bone. However, in even advanced cases giant cell tumors show no periosteal proliferation as did the case under consideration. Further, we would have to explain the fifth cervical vertebral involvement on the basis of a metastasis. Authorities feel that there are no true metastases from giant cell tumors, that such cases are better explained on the basis of progression and degeneration following repeated and ineffectual treatment until an osteogenic sarcoma results. This tumor, of course, is not uncommonly associated with metastatic lesions.

(6) Ewing's sarcoma. This seems an unlikely possibility because it is most common in the first two decades of life, it rarely involves the clavicle, it is commonly associated with systemic symptoms such as fever and leukocytosis, and the x-ray usually shows bone proliferation in parallel rows giving the "onion peel" appearance. Some authors classify a similar or related tumor as "atypical Ewing's sarcoma" or "reticulum cell sarcoma." The information given in the protocol as to the x-ray findings in our case suggests that the diagnosis or reticulum cell sarcoma is a possibility. The deterants from the diagnosis, however, are its infrequent occurrence, and, more important, the fact that this disease process practically always occurs in children or young adults.

(7) Diseases of the bone marrow and lymphoid tissue associated with osseous changes. One can rather quickly eliminate as reasonable possibilities such disease as Hodgkins, lymposcarcoma, lymphatic and myeloid leukemia and eosinophilic granuloma.

(8) Fibrosarcoma. This appears to be an unlikely possibility for it tends to occur as a single lesion, most frequently in the lower femur and upper tibia. It tends to destroy bone from without, inwardly. The x-ray always shows an extra-osseous shadow, and periosteal proliferative changes are uncommon.

(9) Hemangioendothelioma. This is a rare disease but the protocol describes a case which conceivably could be explained by such a diagnosis. I discard it because of its rarity.

Now back to the subjects of major interest — metastatic carcinoma and multiple myeloma.

Let us brifely consider the diagnosis of metastatic carcinoma. Metastasis to bone occurs in nearly 50% of the cases of mammary, renal and bronchogenic carcinomas, and is clinically manifest in about 25% of the cases before termination of the disease.

In metastatic bone lesions arising from breast cancer the bones most commonly involved are spine, pelvis, femur, skull, ribs and humerus. There is usually no tumefaction, the x-ray usually shows an osteolytic process in which periosteal proliferation is uncommon. No mention is made in the protocol re previous breast surgery, nor was any breast pathology noted on the physical examination.

Renal carcinoma with metastasis to bone usually involves the humerus, spine, femur,

pelvis, ribs, bones of the foot, skull or sternum. Secondary bony lesions are common. Geschickter reports 63 cases of hypernephroma in which 22 had bony metastases. We were told that the kidney shadows were of normal size as seen in a plain film of the abdomen. In contrast to metastatic tumors from carcinoma of the breast, lesions of the bone in hypernephroma show a greater tendency to occur as a single focus. I shall admit that our patient may have had a silent renal primary lesion. Nevertheless, I am discarding metastatic renal carcinoma as a diagnosis.

Likewise, our patient may have had a silent bronchogenic carcinoma with bony spread. The negative chest x-ray, however, and the realization that bronchogenic carcinoma is much more common in males encourages me to discard this diagnosis.

Bony metastases from thyroid carcinoma in one reported series occurred in 20% of the cases. Multiple, lytic lesions can be seen in such bony spread. Again, no mention is made of thyroid pathology in the report of the physical examination. I am discarding this diagnosis also.

This brings us back to the diagnosis of multiple myeloma. Clinically pain, tumor and fracture are the characteristic findings. Our patient had the pain and the tumor. Although solitary foci of multiple myeloma have been reported, exceptions are so rare that one is justified in stating that multiple myeloma is always multiple in distribution. This multiplicity may not be clinically evident, but autopsy findings always reveal the foci. There is multiple involvement of the ribs, sternum or clavicles and spine in 90% of all cases. In other words, in nine out of ten patients with multiple myeloma there are tumors of the ribs, sternum and spine; of the clavicle and spine; or the ribs, sternum, clavicle, and spine. About 70% of the patients with multiple myeloma have Bence-Jones protein in the urine, 50% have hyperproteinemia, 50% hypercalcemia. Our patient's findings in this regard were normal. Multiple myeloma lesions by x-ray are purely osteolytic in character, they are rounded in contour and have a central location. When periosteal reaction is present, it seldom is associated with the new bone formation. Pulmonary metastases are conspicuous for their absence. One can ask, if a multiplicity of bone lesions is the characteristic clinical picture, why do you propose the diagnosis of multiple myeloma when only two bony foci were demonstrated? I quote from Lichtenstein:

> "In regard to the roentgenographic findings, we found that the picture conventionally held to distinguish multiple myeloma – that of many bones, including the calvarium, riddled by clearcut punched-out osteolytic defects – represents the exception rather than the rule and applies only to certain cases in which the disease is far advanced. Indeed, very often one observes merely some vaguely defined rarefractions in a number of bones or a single exuberant tumor focus in some one bone (commonly a femur or a humerus, but sometimes a vertebral body, a rib, or a clavicle, an innominate bone, a bone of the calvarium, or some other bone) without obvious involvement of the skeleton generally."

DIAGNOSIS: Multiple myeloma

DIFFERENTIAL DIAGNOSIS

Dr. Gerald G. Garcelon*: In summary, we have a forty-four-year-old woman with a mass involving the medial end of the left clavicle that had apparently been noticed four months previously by the patient and had slowly increased in size. There was no history of trauma, and the past history and physical examination, except for the mass were comparatively negative. The laboratory findings were all within normal limits. No Bence-Jones protein was found in the urine. The x-ray examinations, however, did show some definite pathologic findings.

May I see the films?

Dr. Stanley M. Wyman: The chest films show no intrinsic disease in the lungs, heart or mediastinum. The medial end of the left clavicle is destroyed, and on a heavily penetrated film the lesion can be seen expanding the bone and producing some periosteal reaction. The process is almost entirely destructive. The cervical vertebra described in the protocol appears similar, but the involvement is much less severe. The other bones are not remarkable.

Dr. Garcelon: From the x-ray findings this patient had what appears to have been a completely osteolytic process involving two bones – the left clavicle and the right side of the body of the fifth cervical vertebra, which no evidence of an osteoblastic process except for slight periosteal reaction in the clavicle. The only other information that is not presented in the protocol

*Clinical associate in surgery, Massachusetts General Hospital.

and might help in diagnosis before biopsy is a blood Hinton test and tuberculin test. I should only mention syphilis and tuberculosis as rare possibilities. In acquired syphilis, I believe that, with the exception of lesions involving the skull, the bone lesions as a rule are more osteoblastic in nature. Although tuberculosis of the bone does produce chiefly a destructive lesion, it is much more common in children, affecting the bodies of the dorsal vertebras and the ends of the long bones, and, in addition it is becoming increasingly rare in this country. As a matter of fact, there is no evidence in the protocol to support a diagnosis of any inflammatory lesion of bone such as osteomyelitis. The normal temperature chart, with absence of leukocytosis and acute pain, is certainly not in keeping with the picture of acute osteomyelitis, and the absence of new bone production in the x-ray films does not favor a diagnosis of chronic osteomyelitis.

My first consideration in a forty-four-year-old woman with an osteolytic process involving more than one bone is certainly that of metastatic carcinoma with the most likely primary lesion arising in the breast. Other primary lesions as a source of metastases to bone, which must be considered but which are much less common, are those of the thyroid gland, kidney, uterus, cervix, ovary, bladder, stomach and lung. I should certainly expect some evidence of the primary cancer on physical examination, but even in the absence of a palpable lesion in the breast or thyroid gland, I cannot completely exclude the diagnosis of metastatic carcinoma in this case.

My second consideration is multiple myeloma. The age of the patient and the destructive lesions in the clavicle and vertebra and certainly in favor of this diagnosis. The absence of Bence-Jones protein in the urine does not rule out multiple myeloma, since this finding is reported as being positive in about 65 per cent of cases. To support this diagnosis one would like to have an increased total serum protein, an increased serum calcium and, in addition, a sternal puncture showing characteristic plasma cells. The usual case of multiple myeloma undoubtedly presents more than two lesions, which are a rule smaller than the lesion of the clavicle in this patient and probably more often affect the skull, ribs and pelvis. Even though the characteristic laboratory findings were not present and only two bones were involved in the destructive process, it is difficult to exclude multiple myeloma completely as a possible diagnosis in this case.

The next group of lesions to be considered are the primary neoplasms of the bone. In this consideration, one must assume that the process is multiple or that there is a metastasis from one bone to another. I believe that both these assumptions are quite rare although possible. Of the benign bone tumors, the lesions that are more likely to simulate the x-ray findings found in this patient are the benign giant-cell tumors, the chondromas and the eosinophilic granulomas.

Benign giant-cell tumors usually occur in adults and cause destruction of bone with expansion and perforation of the cortex similar to what was seen in this patient's clavicle. However, there is usually no periosteal reaction; the lesion is more frequently asymmetrically located in the epiphysis of the long bones, and almost always trabeculae are present in the destroyed bone until late in the disease. There is some question about whether a giant-cell tumor ever metastasizes as such, and I believe that the general opinion is that a metastasis occurs only after sarcoma has developed in the giant-cell tumor. Since this occurs almost always as a result of inadequate repeated treatment, I do not believe that this patient had a malignant variant of the giant-cell tumor. Benign chondromas may produce central bone destruction with thinning and expanding of the cortex. Cases of multiple bone involvement are reported, but these lesions are usually found in younger patients than the one under discussion. Eosinophilic granuloma produces a central destruction of bone with expansion of the cortex. It is almost always solitary, however, and usually affects the pelvic or skull bones of children or young adults. I believe the lesions are usually small and do not attain the size of the lesion in this patient's clavicle.

Of the primary malignant bone tumors one must certainly consider osteogenic sarcoma. Although these tumors usually occur in the age group of ten to twenty years, they may occur at any age. The common sites are the lower femur, upper tibia and upper humerus, but the clavicle and vertebra may also be affected. The usual x-ray picture is one of central destruction extending through unexpanded cortex

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SEARLE

and resulting in periosteal reaction. The x-ray picture, however, can be extremely variable and may show destruction with expansion as seen in this patient. I should expect a greater degree of invasion into the soft tissue if this patient had osteogenic sarcoma. Ewing's sarcoma is extremely rare after the age of twenty-five years. The characteristic x-ray picture is one of widening of the shaft caused by stimulation of new bone formation in parallel layers endosteally and subperiosteally raising the periosteum in "onion-peel" fashion. Later in the disease the tumor may produce areas of destruction in the medulla and cortex. The disease frequently metastasizes to other bones. This patient may have had an atypical Ewing sarcoma, but with the information at hand the odds are very much against it.

Diseases of the bone marrow and lymphoid tissue — such as Hodgkin's disease, lymphosarcoma and lymphatic leukemia — occasionally produce change in bones, but there is no apparent characteristic picture by x-ray examination since these may be either osteoblastic or osteoclastic. In the absence of any other manifestations, it seems most unlikely that this patient's bone changes were due to one of these conditions.

After discussing the various possibilities in the differential diagnosis of this patient, I still come back to my first consideration as the most probable diagnosis — that is, metastatic carcinoma. I certainly cannot exclude this diagnosis with the information at hand, and I believe that in a forty-four-year-old woman with more than one bone involved in an osteolytic process, the odds are highly in favor of metastatic carcinoma.

About the source of the metastases, I cannot place the site of the primary lesion since the physical examination was reported as having been negative; however, in a woman of this age, without evidence of a palpable tumor in the breast or thyroid gland and a normal chest film, I should favor hypernephroma as the most likely possibility.

Dr. Theodore L. Badger: The early history is not entirely accurate in that the patient complained of pain in the joints of the fingers, wrists and shoulders, with discomfort but no redness or swelling of the sternoclavicular joint. No redness of any joints was present, but fusiform swelling of the fingers, particularly the left fourth metatarsal joint, was noted. Otherwise the examination and laboratory studies were noncontributory. This was four months before the admission described in the protocol. The patient was treated with hot soaks and aspirin and thought to have a mild rheumatoid arthritis rather than rheumatic fever. No thought of neoplasm, syphilis or tuberculosis entered the differential diagnosis. She was told to return but did not do so for a little over three months. At that time, two weeks before admission, she was still having multiple joint pains, but there was a redness, slight swelling and much tenderness over the left sternoclavicular joint were taken, without suspicion of the lesion described in the left clavicle. No tuberculin test was done.

CLINICAL DIAGNOSIS

Rheumatoid arthritis.

?Myeloma

DR. GERALD G. GARCELON'S DIAGNOSIS

Metastatic carcinoma to left clavicle and fifth cervical vertebra, ?hypernephroma.

ANATOMICAL DIAGNOSIS

Multiple myeloma

PATHOLOGICAL DISCUSSION

Dr. Winfield S. Morgan: Dr. Taylor, you operated on this patient; will you tell us your findings?

Dr. Grantley W. Taylor: The operation on this patient was an excision of the left clavicle. A low collar incision was made over the left clavicle, and the platysma was divided. The clavicle was severed near the junction of the middle and outer thirds and the proximal two thirds of the bone so as to include any extension of the tumor into the soft parts. After the operation the patient got along very well.

Dr. Hanelin: The roentgenogram of the resected medial portion of the left clavicle shows extensive bone destruction in association with a soft-tissue tumor that extends beyond the confines of the bone.

Dr. Morgan: Microscopical sections of the clavicle showed extensive replacement of the bone-marrow portion by sheets of myeloma cells. Cytologically, this case would fall into the intermediate group as defined by Lichtenstein and Jaffe,(1), consisting of cells of varying size and shape some of which were somewhat larger, with two or more nuclei and some of which were very large with bizarre hyperchro-

matic nuclei. One feature common to all the cells was the presence of abundant eosinophilic cytoplasm.

This woman's clinical course was interesting. The excision of the clavicle took place in 1941. Annual roentgenograms of the chest, spine and pelvis during the next three years failed to disclose any new bony lesions. However, in 1945, the skull showed numerous areas of diminished density that had appeared since the last observation. There were similar areas in the ribs, the right and left iliac bones and the neck of the left femur. Several months later she fell while hurrying to catch a train and suffered a mild compression fracture of the ninth dorsal vertebrae. Two years later x-ray findings were about the same.

Interestingly enough the patient was well and active during this period. In 1951 she fell while ice-skating and experienced immediate pain in the lower back for which she was admitted to the hospital. At this time the bones of the lumbar spine and pelvis appeared somewhat more osteoporotic than before. There was little change in the lesions in the iliac bones, and no evidence of a new fracture. The urine had a specific gravity of 1.014 and gave a two plus test for albumin; the sediment contained occasional white cells per high-power field. The serum total protein was 6.7 gm., the albumin 4.75 gm., the globulin 1.95 gm. and the nonprotein nitrogen 25 mg. per 100 cc.

In July, 1952, the patient was again admitted to the hospital because of pain in the lower back with radiation down the left leg. The urine gave a three plus test for protein, all of which was Bence-Jones protein. Examination of the blood revealed a hemoglobin of 8.6 gm. per 100 cc. There were no plasma cells in the smear. The patient was given x-ray therapy to the spine and blood transfusions, with only transient improvement. Progressive renal failure necessitating several admissions developed, and she died in uremia four months later.

At autopsy the general body organs were not remarkable except for the kidneys, which weighed only 160 gm. together. Microscopically, they showed the typical features of myeloma kidney in which the distal tubules were distended with large masses of eosinophilic material. The bone-marrow cavities of the spine, right ilium and ribs were replaced by pinkish, jelly-like material, which microscopically had the same appearance as the lesion in the clavicle removed eleven years before.

This case is of interest for several reasons; firstly, a duration of eleven years after removal of the first lesion is unusual and suggests that the presence of multinucleated cells with bizarrely shaped nuclei does not necessarily indicate a rapidly growing lesion; secondly, the total serum protein remained at normal levels throughout the course, and there was never a hyperglobulinemia; thirdly, despite the diffuseness of the bony involvement, no leukemoid element ever developed, and plasma cells were never dientified in the smear; fourthly, Bence-Jones protein was found only during the last two years; and finally, there was no evidence of amyloidosis at autopsy, a development that one might reasonably expect in a case of myeloma of this duration.

The relation between the solitary myelomatous tumor and multiple myeloma is still a matter of dispute in some quarters. This case has demonstrated the development of multiple lesions several years after the diagnosis of a solitary one, and offers support for the view that these two conditions are probably variations of the same disease. The similar cytology of the tumor in the initial lesion and that found at autopsy would be further support for that contention.

Dr. Bernard M. Jacobson: I first saw this patient six months before she died. At that time the stained blood smear showed no diagnostic abnormalities. The sternal-bone-marrow aspiration revealed 29 per cent of the marrow cells to be members of the plasma cells series, 18 per cent mature plasmacytes and 11 per cent proplasmacytes or "myeloma" cells. A single urine specimen contained a large amount of protein, all of which was Bence-Jones protein. Detection of this protein is not always easy, and it is quite possible that many of the routine laboratory reports of "no Bence-Jones protein present" during the preceding few years were incorrect. Ten days after I first saw the patient, a specimen of serum was taken and by the usual fractionation method showed an albumin content of 4.60 gm. and a globulin content of 1.29 gm. per 100 cc.

In my opinion, one cannot be sure that the initial clavicular lesion eleven years before death

represented a so-called solitary myeloma. The absence of other skeletal lesions, the normal hemoglobin content and the normal blood chemical findings together do not rule out multiple myeloma. If a bone-marrow aspiration at that time had been carried out and the marrow found to be normal, I should tentatively accept this case as one of solitary plasmona. If we assume that this patient had multiple myeloma eleven years before death this case represents a long duration indeed, In his monograph on the clinical and pathological aspects of myeloma, Magnus-Levy(2) cites from the older literature cases of long duration with well established diagnoses of multiple myeloma. His Case 13, ascribed to Groves, lived fourteen years after the known onset of the disease, but this is the only case gathered by Magnus-Levy whose duration exceeded that of the present case. On the other hand, if we assume that this patient's initial lesion consisted of a solitary myeloma we must conclude that dissemination took place at least four years later, when the generalized skeletal lesions were found. This course conforms to that of the vast majority of cases of so-called solitary myeloma. The subject was thoroughly reviewed by Gootnick (3) in 1945. A small proportion of cases may be considered a benign type of tumor, but the vast majority showed dissemination and the clinical evidence of multiple myeloma within a few months or a few years after extirpation of the initial lesion. Unfortunately, most of the cases in the older literature considered to represent solitary plasmoma were not initially studied from the point of view of the bone-marrow histology. In this hospital the incidence of solitary plasmoma is probably not more than 1 in 100 cases of multiple myeloma. It is an exceedingly rare disease.

REFERENCES

1. Lichtenstein L., and Jaffe, H. L. Multiple myeloma: survey based on twenty-five cases, eighteen of which came to autopsy. Arch. Path. 44-207-246, 1947.

2. Magnus-Levy, A. Uber die Myelomkrankheit VI. Beitrage zur Klinik und Pathologie. Ztschr.f.klin. Med. 121:535-562, 1932.

3. Gootnick, L. T. Solitary myeloma: review of sixty-one cases. Badiology 45:385-391, 1945.

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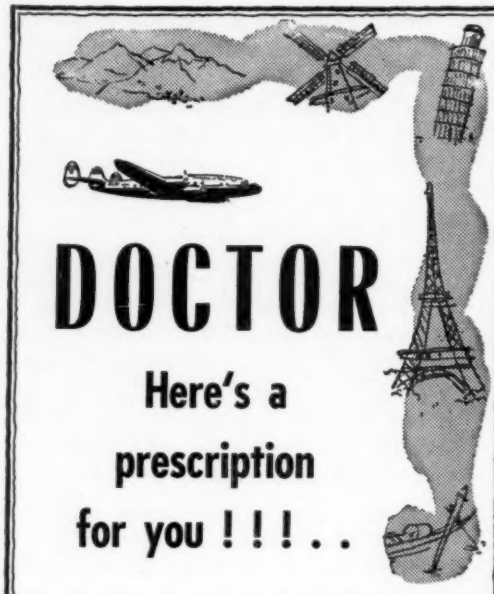

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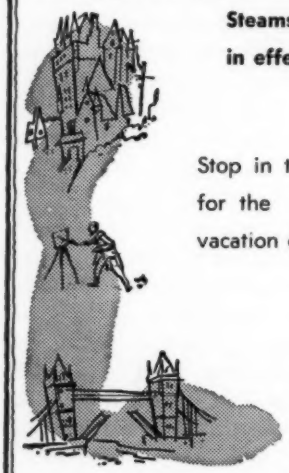

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1. Seifter, J., et al.: To be published. 2. Fazekas, J.F., et al.: M. Ann. District of Columbia 25:67 (Feb.) 1956. 3. Mitchell, E.H.: J.A.M.A. In press.

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Editorial

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The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules must be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English, especially with regard to construction, diction, spelling, and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words. Try to limit the article to 1500 words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Articles for publication should have been read before a controversial body, e.g., a hospital staff meeting, or a county medical society meeting.
7. Exclusive Publication—Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notifed within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
8. Illustrations — Ordinarily publication of 2 or 3 illustrations accompanying an article will be paid for by Arizona Medicine. Any number beyond this will have to be paid for by the author.
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The Editor is always ready, willing, and happy to help in any way possible.

VOLUNTARY PENSION PLANS FOR SELF-EMPLOYED PERSONS*

The following explanation of the Jenkins-Keogh bills was prepared by Congressman Eugene J. Keogh primarily for the purpose of assisting members of the House and Senate in answering an ever-increasing volume of correspondence from constituents. It covers the amendments of July 18, 1955. This amended bill was made a part of the omnibus tax bill that has not yet been reported out by the House Committee on Ways and Means. — ED.

PURPOSE. — Under present law certain tax advantages are extended to participants in qualified employee pension and profit sharing plans. These tax advantages include postponement of the tax that otherwise would be payable by the individual beneficiary on annual contributions to the plan until the pension benefits are paid out, a similar postponement of tax on the interest earned on funds held for the plan in trust, and capital gains treatment on certain lump sum distributions under the plan. The provisions dealing with employee pension and profit sharing plans were thought desirable as a means of encouraging private provision for the cost of old age, thereby relieving the federal, state, and local government of much of this responsibility.

This bill corrects what in the opinion of its proponents amounts to a serious inequity created by the fact that the large group of self-employed persons are foreclosed under present law from establishing retirement savings programs that will permit them to enjoy the same tax advantages that are extended to employees under qualified plans established by their employer.

Qualified Persons. — The benefits of this bill are extended to all persons who are subject under the Social Security Act to the tax on self-employment income; in addition several categories of persons who are exempted from the tax on self-employment income and not now covered by the social security program will receive benefits from the bill. These additional categories include physicians, lawyers, dentists, osteopaths, veterinarians, chiropractors, naturopaths, optometrists, Christian Science practitioners, ministers of a church, and members of a religious order. A person who is self-employed and who also is an employee covered by a qualified employer plan or a government retirement plan may still be covered if more than 75% of his earned net income is derived from self-employment.

Eligible Pension Funds. — The bill provides a limited deduction for contributions into certain specific types of retirement savings programs. These include restricted retirement funds estab-

*Reprinted from J.A.M.A., April 7, 1956

lished for the exclusive benefit of participants in which the contributions are held in a trust, custodian accounts, and restricted retirement life insurance or annuity contracts.

In the case of restricted retirement trust funds and custodian accounts the following conditions must be met. 1. Participant rights must be non-assignable expect for permission to designate a beneficiary or to elect a joint and survivor annuity with a dependent or spouse. 2. The trustee or custodian must be a bank, and investments by the trustee or custodian must be controlled by trust indenture and local law except that the trustee or custodian may purchase a restricted annuity contract. 3. Except for the total and permanent disability of the beneficiary, there can be no distribution of interests to participants before age 65. Distribution thereafter can be in any form. In the case of a restricted retirement life insurance or annuity contract the contract must be purchased from an insurance company and it must meet the conditions described in 1 and 3 above.

Limitations on the Amount of Income Tax Deductions for Payments to Eligible Pension Funds. – The annual contribution to a pension fund for which the self-employed individual may take a tax deduction is limited to 10% of his earned income or $5,000 a year, whichever is less, but the aggregate deduction during the individual's lifetime cannot exceed $100,000. The bill provides a carryover feature to take care of the situation where the individual does not invest up to the above limitation in a particular year. In this case a deduction may be taken in the current year for contributions in excess of 10% of earned income up to a limit of $5,000. However, a carryover from a particular year must be used within one of the five succeeding years.

A special rule is provided for taxpayers who are beyond the age of 55 on the effective date of the bill. The limitation on their annual exclusion is raised by 1% of earned income, or $500, for each year by which the taxpayer's age exceeds 55 on the effective date, except that the increase shall not be credited for more than 20 years. This rule works in the following way. A taxpayer who is age 65 when the bill becomes effective may increase his annual limitation by 10 percentage points or by 10 times $500, so that he can deduct for tax purposes in each year up to 20% of his earned income, or $10,000, whichever is less, if he makes that large a payment into an eligible pension fund. If the taxpayer is age 75, the limitations would be raised to 30%, or $15,000, whichever is the lesser. The limitation does not extend beyond this point even though the taxpayer is over 75.

The definition of earned income used in the application of these limitations corresponds to the definition of self-employment income that is used in calculating the social security tax on self-employment income except, of course, the income of the specially included categories, such as ministers and physicians, is included for this purpose. In the case of contributions made by a self-employed individual to a restricted retirement insurance contract providing both life insurance and annuity benefits, the portion of the contributions properly allocable to life insurance benefits as distinguished from the equity acquired is not allowed as a deduction.

Treatment of Distributions. – Amounts distributed from a restricted retirement fund, except in a lump sum, shall be taxable as an annuity with the investment in the contract limited to contributions that have not previously been deducted from gross income. Thus, any deduction from taxable incomes on account of a distribution is limited to contributions for which no tax benefit was previously received. If the taxpayer has been able to deduct all his contributions, then the whole of each annuity payment must be included in gross income.

Amounts received by the estate or beneficiary of the taxpayer from an insurance contract qualifying as a fund will be includable in the decedent's gross estate for tax purposes, but benefits, other than life insurance benefits, will be taxable as income to the estate or beneficiary. If the entire amount in the restricted retirement fund is distributed in a lump sum it will be taxable as a long-term capital gain but only if the fund has accumulated over a period greater than five years.

Miscellaneous Provisions. – Contributions made to an eligible fund within 60 days of the close of the year may be treated as payments made in the prior year. This is designed to deal with the problem faced by self-employed persons who might not know their exact income at the end of the taxable year and thus would not know precisely how large a deduction would meet the 10% test.

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1. Johnston, T. G., and Cazort, A. G.: J. Allergy 27:90, 1956. 2. Schwartz, E.: New York J. Med. 56:570, 1956. 3. Schiller, I. W., et al.: J. Allergy 27:96, 1956.

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TOPICS OF *Current Medical* INTEREST

RX., DX., AND DRS.

By Guillermo Osler, M. D.

THE **Thoracic Surgeons** (Am. Ass'n. for Thor. Surg.) had quite a meeting at Miami Beach. The huge Hotel Fontainebleau is pretty rich for a steady diet and, even out of season, was fairly expensive. . . . Hundreds of eager and bright young non-members were on hand to audit the sessions and to help give some of the startling reports. . . . Almost every type of heart lesion is eligible for surgical correction. There are a dozen methods of extra-corporeal shunts, and methods of oxygenating blood. Membranes, discs, huge machines, and inexpensive tin-can models were described. . . . The technics of cutting valves and closing septal defects should soon reach some sort of best solutions. . . . There were several topics on surgery of the lung which were notable. The successful use of lobectomy for certain types of lung cancer, previously reported by Jones, Robinson, and Meyer, was confirmed. The complications of segmental resection are leading some surgeons to do more lobectomies. The use of extra-periosteal (subcostal) polombage received the most extensive and surprising discussion, with lucite spheres, plastic 'doughnuts', folded plastic sheets, and parafin all being mentioned in 150 to 1,000 cases of each. . . . We are sad to say that Dr. Paul 'Buck' Samson resigned as secretary of the society. His yearly reminder has always produced a mention of the meeting here, and he is a constant reader of ARIZONA MEDICINE. He is president of the American Trudeau Society for this next year so he'll doubtless have things to do with his spare time.

A major pleasure at MEDICAL MEETINGS is the chance to see old friends. We can hear of medical progress, or present a paper, or relax, but the best chance of all is to renew friendships. . . . There is always the sadness of saying goodbye again, especially if it seems probable that one may not cross paths soon, or possibly ever. . . . Lest this sentimentality become too depressing we can quote Dizzy Dean, the baseball announcer, anent a return to one's home, — "It looks like a hit folks. Nope, it's just a long foul. Well, there go the runners back to their respectable bases!"

Your friends in San Francisco have probably been shocked by the recent announcement that it is the most **'alcoholic' city** in America. Dr. Ellis Sox, the City health director has said "San Franciscans aren't as well adjusted as other Americans. It's an emotionally sick community." . . . A ten-cent psychiatrist named G. Osler suggests that a lot of those poor people are frustrated because they don't live in Los Angeles. And maybe the Angelenos are disturbed because they don't live in Arizona.

Dr. Linus Pauling of Cal. Tech. is a great atomic and MOLECULAR CHEMIST, as proved by his Nobel Prize, and in spite of the Immigration Department. He has recently been concerned with PROTEIN STRUCTURE, and its connection with disease. . . . Ciba's 'Medical News' got an interview with him on the four greatest areas of medical interest. One is the "sequence of amino acids in the basic structural element (the polypeptide chain) of the protein molecule." A second is the mode of action of enzymes. Another is the biosynthesis of proteins in tissues. The fourth is the field of 'molecular diseases', in which he is a pioneer and discoverer. The known molecular diseases are sickle cell anemia and phenylpyruvic oligophrenia. He believes that muscular dystrophy will also turn out to be a molecular disease. . . . The pride of most of us can be spared if we haven't seen one of the 'phenyl' cases, since all the patients are children.

The work of Baer and colleagues of Rochester, N. Y. has pulled the bath-mat from under those people who have tried to prevent **acute fungus infections of the feet** by foot sanitation in public bathing places. . . . Apparently it is possible to contaminate, but not infect, the skin of normal subjects. Exogenous exposure plays a minor role, they say, in acute dermatophytosis of the feet. . . . Public and individual measures should be based on the "maintenance of local resistance", which could mean anything from drinking orange juice to shots of immune globulin.

The Electrodyne Co. of Norwood, Mass. has a notable series of machines for diagnosis and treatment of CARDIAC ARREST. . . . They have been known for devices which act as "Pacemakers' (in Stokes-Adams syncope, etc.), and cardiac 'Defibrillators' for use during surgery. . . . They also have other stimulators, but now have a visible and audible heart monitor, or 'Cardiac Alarm'. It gives a signal at the onset of ventricular standstill or fibrillation.

TIME Magazine gives a jolt to those who think that **soap** is a sterilizer. It has been known for years that bars of soap carry 'germs', but

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MEDICAL DIRECTOR
DUKE R. GASKINS, M. D.

Dear Doctor:

It was a pleasure to have seen so many of you at the Arizona Medical Association meeting held in Chandler at the San Marcos during April. I want to express my thanks for the fine job that was done by the Executive Secretary and all who took part in organizing the meeting.

I haven't always been able to attend these meetings in the past and realize I have missed some very worthwhile meetings.

I look forward to seeing each of you in the near future and if you have anything you would like to discuss about HBA, or if I can answer any questions you might have, don't hesitate to call on me.

HOSPITAL BENEFIT ASSURANCE

Sincerely,

Duke R Gaskins MD

D. R. Gaskins, M. D.
Medical Director

DRG:bw

a Johns Hopkins Hospital study showed that their own soap contained as much as 3,500,000 organisms per cc. Solutions used for rinsing gloves and instruments picked up bacteria from staff clothing. . . . From now on the hospital will sterilize the soap containers (by steam under pressure), and add chemical germicides to rinsing solutions.

This column is not preoccupied by SUICIDE even tho several items have appeared in past years. Suicide is hard to analyze, hard to predict, and various authorities have varied opinions about it. . . . About 20,000 American commit suicide per year, but five times as many try it. Shneidman and Tarberow analyzed 64 psychotics, half of whom had had suicidal impulses. It was impossible to pick out the potential suicides from the history. Many people threaten it and fail to act, but everyone who acts has threatened it. . . . The only emotional ills which predisposed were very severe depression and delusions of persecution. . . . Those who only threatened may be more disturbed by guilt, agitation, irritability, and aggression. . . . These are slender leads, but may help to alert a physician.

Dr. Alvarez, who hasn't been mentioned here in 2 months, now carries his ideas about **"little strokes"** to a stronger, and even younger conclusion. . . . He has stressed the fact that many oldsters can have clinically unrecognized "little strokes" which change their personality and life. This can occur at 40 or 50 years of age. Some may actually have dozens of them. . . . Now he says (in GERIATRICS, Dec. 1955) that persons in their 20's and 30's may suffer "little strokes". Same atypical picture, same peculiar results.

Dr. Charles E. Smith of Berkeley, long the 'head-man' in 'VALLEY FEVER' work in the west and southwest, reports that his blood serology tests are 99½% effective in determining dissemination.. The hazard is its possible dissemination which may be fatal. The incidence is highly dependent on race, — about 1 to 2 per cent of the infections in white people disseminate; the number is several times greater in negroes; and Filipinos are horribly susceptible (300 to 400 cases per thousand infections). . . . A Filipino would be foolish to live in an endemic area, where from 60 to 100 percent of the residents show infection by skin-tests.

The Number One American health problem is **chronic disease.** There are 5,500,000 chronically ill people in the United States. . . . Longevity is given some of the blame. Failure to use methods of preventive medicine, particularly mass diagnosis, is also responsible. . . . The greatest load of blame is placed on the physicians who use new therapy only after a long lag-period. . . . The National Health Forum hopes to work on all of the angles with greater intensity. It is estimated that 2,000,000 of the chronically disabled could be returned to employment.

The British 'Nutrition Society' was told that ANEMIAS in Eire, India, and among members of a vegetarian group are due to a protein-deficient diet. This is especially notable in pregnant women, but hard to diagnose by clinical signs, without blood counts. . . . The vegetarians developed combined cord degeneration, due to a vitamin B12 deficiency.

An odd case of **"depot penicillin"** has recently been seen. The term is used in an unusual sense, since it applies to a pleural fluid which formed after a pneumonectomy, and which presumably became loaded with penicillin from the pre and post-op. therapy, and from a dose left in at the time of surgery. . . . The patient developed an obscure fever, described a previous 'reaction' to the drug, and the temp. of 101° lasted for weeks. The fluid was sterile and no other cause was present. . . . He improved slightly when fluid was removed and replaced with air, thus decreasing the negative pressure; when antihistamines were given; and when time passed and the fluid became organized. . . . No assay for penicillin was made.

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*Moyer, J. H., and Hughes, W. M.: J. Chron. Dis. 2:678, 1955.

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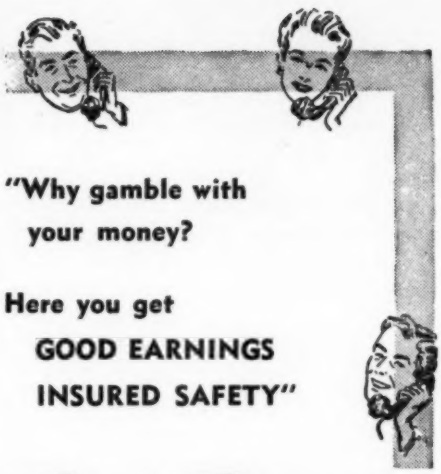

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HISTORY

JOHN JOSEPH McLOONE, SR., M.D.

January 26, 1880 – December 26, 1941

Dr. John Joseph McLoone was born January 26, 1880, in Dublin, Ireland. His father, who was in the wool and linen exporting business, brought him to Philadelphia, Pennsylvania as a young boy, where he attended Cahill Catholic High School and graduated with honors from the Catholic University of America in Washington, D. C. as a chemist. He later became a registered pharmacist and practiced pharmacy while working his way through the George Washington University, School of Medicine in Washington, where he graduated as the Valedictorian of his class. After serving his residenceship in the Episcopal Eye, Ear, Nose and Throat Hospital in Washington, he accepted a position as assistant in the Eye, Ear, Nose and Throat Department of the Colon Hospital in Panama and later became Chief of this service.

In 1914, at the suggestion of Attorney Brady O'Neill, brother of the famous Rough Rider, Bucky O'Neill, whom he had known in Washington, he came to Phoenix and opened his office in the O'Neill Building, located at the present site of the Phoenix Title and Trust Building. As his practice grew to one of the largest in the Southwest, he moved to the Goodrich Building, then to the Heard Building and finally to the Professional Building when it opened in 1932.

In 1934, Dr. McLoone suffered a stroke and retired from active practice. In 1938, his estate on North Central Avenue, was purchased by Dr. J. N. Harber, after which he moved with his family to Santa Monica, California, where he passed away on December 26, 1941.

During his years of active practice, he made several trips abroad, visiting his birthplace and also doing post-graduate work in the University of Vienna, the University of Bordeaux and in London. In 1928, he presented a Paper at the Otolaryngological Congress in Copenhagen, Denmark. He also found time for many Civic interests in Phoenix and was an active member of the Kiwanis, Elks, the Knights of Columbus and was a member of the Board of Directors of Brophy College. He contributed noticeably to charity, always remembering the great opportunities America and The Valley of the Sun had given him to attain success and prominence as a physician and surgeon.

He served as Chief of the E.E.N.T. service of St. Joseph's Hospital and instructed the nurses of that hospital for many years. He also served as Chief of Staff of St. Joseph's Hospital and was elected President of the Maricopa County Medical Society in 1932.

He was certified by both the American Board of Ophthalmology and Otorhinolaryngology and was nationally known for his work in Otology. He was an active member of the American Ophthalmological Society, the American Academy of Ophthalmology and Otolaryngology, the American Laryngological, Rhinological and Otological Society, the Pacific Coast Oto-Ophthalmological Society, the American Board of Ophthalmology and the American Board of Otolaryngology and contributed frequently to the publications of these Societies and lectured at their National Meetings. He was admitted to the American College of Surgeons in 1921.

He was survived by his wife, six children and two Sisters, members of the Sisters of Notre Dame.

Postscript:

An important page in the history of medicine in Arizona was written by the life of Doctor John McLoone, who died in December 1941.

He was a short, rather rotund, important and dignified man, with a sometime Napoleonic seriousness about him. His pronouncements were respected and he made up in ideas what he lacked in stature.

The document presented here was collected by Doctor John McLoone, Jr., who is also in the practice of Ear, Nose and Throat diseases in Phoenix. Another son, Edward McLoone, M. D., is in Orthopedic Surgery here in Phoenix as well.

Howell Randolph, M. D.

ARIZONA BLUE SHIELD

THE 8TH annual meeting of Arizona Blue Shield was held April 25th at the San Marcos Hotel, Chandler, in conjunction with the annual convention of the Arizona Medical Association. The House of Delegates of the state medical group, the Blue Shield corporate body, elected the following officers, board members and professional committee members: Officers, Dr. G. Robert Barfoot, Phoenix, president; Dr. Virgil

Drs. Geo. Barfoot, Donald A. Polson and David Engle.

Toland, Phoenix, president-elect; Dr. David Engle, Tucson, vice president; Dr. Noel Smith, Phoenix, secretary; and E. N. Holgate, Phoenix, vice president of the First National Bank, treasurer. Board Members, Dr. Barfoot, Dr. Smith, Dr. Arthur Stevenson, Dr. L. L. Tuveson, and Dr. Carl Holmes, all of Phoenix; Dr. Fred Lesemann and Dr. Stuart Sanger, both of Tucson; and Dr. Paul Slosser, Yuma. New lay members are Don Leahy and Victor I. Corbell, both of Phoenix. Professional Committee, Dr. C. C. Piepergerdes and Dr. James Barger, both of Phoenix, and Dr. Stuart Sanger, Tucson.

Membership on the board of directors was increased from 15 to 20 members, and for the first time a provision was made to elect a president-elect.

L. Donald Lau, executive director of the plan gave his 1955 progress report. Included were these salient points: At conclusion of last year there were 127,564 Blue Shield members in the state; 1955 income was $1,230,734.52, with $905,491.99 of this being used to provide care for the members. Lau pointed out that for the fifth consecutive year the plan was the recepient of first place award for its public relations program in competition with Blue Shield plans all over the country by the Blue Shield Commission, Chicago.

Other priority items discussed by the House of Delegates were:

1. A decision not to pay for services rendered Blue Shield members by osteopaths.

2. Passing resolution to provide office and out-patient hospital minor surgery payments.

3. Passing the resolution to provide for non-hospitalized diagnostic pathological and radiological service payments.

4. Passing the resolution to permit medical doctors to accept surgical and medical fees from private commercial insurance companies over and above and in addition to the Blue Shield allowance.

5. Passing the resolution to establish separate fees for physicians acting in assistant surgeon capacity in major procedures.

6. A resolution was passed to set up a joint commission, consisting of the 20 members of the Blue Shield board of directors and a like number appointed by the Council of the Arizona Medical Association to inquire into the desires of all Participating Physicians as to whether (1) Arizona Blue Shield should be liquidated (assets returned to the subscribers as set forth by law; or (2) whether the plan should continue as is on a part service-benefit and indemnity basis; or (3) convert to a straight indemnity plan; or (4) convert to a straight service-benefit plan. A report of the action of this committee will be made next year at the annual meeting.

ARIZONA LICENSURE TEMPORARY PERMITS

FREQUENTLY, question is raised as to the possibility of obtaining a temporary license or permit to practice medicine and surgery in the State of Arizona, authority therefor and requirements exacted. Unquestionably there is need for enlightenment, and this article is submitted by the Board of Medical Examiners of the State of Arizona in the hope that the doctors of medicine practicing in this State may better understand the governing statute and policy of administration.

First, let us refer to the statutes. Article II, Section 34-1427 (A.R.S., 1956) contained in Chapter 13, Medicine and Surgery, dealing with "temporary license or permit" reads as follows:

> "A. When the services of an applicant are needed as an emergency in any community, the Board may grant to a graduate of any college or school of medicine and surgery approved by the Association of American Medical Colleges, a temporary license or permit to practice medicine and surgery in such community. **A temporary permit or license shall be valid only until the next regular meeting of the Board,** when the applicant must appear for regular examination, or for such limited time thereafter as is essential only to grade the applicant's examination papers to determine eligibility for or denial of a certificate to practice medicine and surgery and the issuance thereof.
>
> "B. Two renewals of a temporary license may be granted if the renewals immediately and consecutively follow the quarter for which the temporary license was issued, **and then only to provide sufficient time for an applicant to take two consecutive basic science examinations,** if required.
>
> "C. Only one temporary license and two renewals shall be issued to any person. A temporary license shall not be filed with the county recorder."

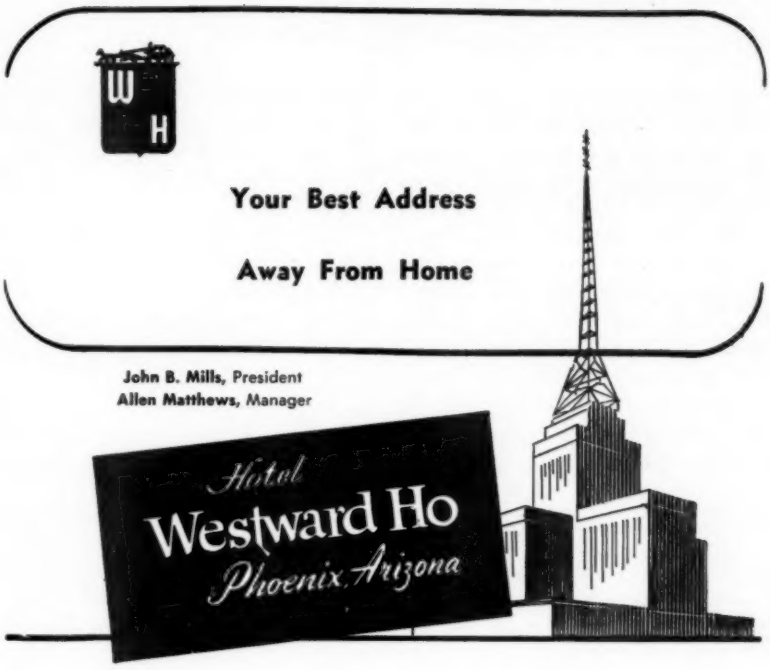
Referring to Article I of this same Chapter, Section 32-1401 (A.R.S., 1956) Definitions, an "emergency" is described as follows:

> "1. 'Emergency' means the inability of the local physicians and surgeons in any community to meet conditions effecting the public health that may arise suddenly and unexpectedly by reason of fire, flood, explosion, epidemic, pestilence, or like disaster, or through some unusual occurrence or condition which in the judgment of a majority of the Board constitutes an emergency."

This Board is directly responsible to the Governor of the State of Arizona in the administration of this Act. Its duties are to medically safeguard the citizens of the State including physicians and surgeons practicing in Arizona **regardless of their affiliation with local, state or national medical societies or associations,** by regulating the practice of medicine and surgery by physicians and surgeons of this state. Regulation is accomplished by licensure and by standards of practice for those already licensed.

It has been customary in the past, and the Board still follows such practice, to contact the local medical society for a statement regarding local situations at the time temporary licenses are being considered. It is pointed out that the Board is not bound to make a decision by any reply from the society. The reason for this is obvious. It is the responsibility of the Board and the Board alone to administer the provisions of the Medical Practice Act. Timing is of the essence, and it is recognized that many societies meet only once a month and due to the emergency frequently do not have time to canvass its membership. A decision could be biased, and the Board is required to use its best judgment in the interest of the health and welfare of the people of this State. The process is used as just one method of its endeavor to obtain an overall picture of the existing situation locally. Sometimes the Board agrees with the local society — sometimes it disagrees.

May we reemphasize that temporary licenses or permits are issued only on the basis of an established community "emergency," with the understanding that such licensee has good intention, and will proceed forthwith, to qualify for permanent licensure. Temporary licenses are not issued as a convenience to an applicant seeking licensure to permit of immediate practice during the period of qualification therefor; nor as a vacation substitute, excepting in this latter instance, wherein this Board declares that a community emergency exists.



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Organization Page

CIVICS – NORMAN ROSS, M. D.

THE review of the Blue Shield program as voted by the House of Delegates at the Annual Meeting is a matter of greatest import and interest to each of us. This is one problem that calls for the individual member's interest in, and knowledge of, his state medical organization's activity. The appointment of a committee is proper, but it isn't the complete answer.

Such terms as indemnity and service programs, mutual and stock insurance or assurance companies must be not only recognized by we Arizona physicians, but clearly understood by each of us. Blue Shield is a Mutual Plan. We must, therefore, know the public's interpretation of this plan, of these and other insurance terms.

* * *

Rest Homes are the names given to the privately owned health establishments that have been the cause of so much concern in our state, over the years, by our medical societies. Medicine has nearly continuously reviewed them with an eye as to their business practices and standards of care.

We are informed that the reorganized Nursing Home Association plans to request classification by the State Health Department similar to those of states such as New York and Calif. Group advises that at present there is only one form of licensure for nursing or rest homes in the state. This procedure does not follow the recommendations of the Maricopa County Rest Home Committee which recognized the difference in service of those institutions employing graduate nurses as opposed to nursing homes furnishing only bed and board.

Regulation or supervision of such activity is in the public interest. Requesting Legislative assistance has been considered. It may be that the State Health Department by expanding present licensure and by rules and regulations can perform this great public service.

* * *

AMERICAN CANCER SOCIETY, ARIZONA DIVISION, 1429 North 1st Street, Phoenix, Arizona.

A new policy on the Service Program of the American Cancer Society, Arizona Division, received approval of the Executive Committee at its meeting on April 17th. Chairman of the Service Committee is Paul B. Jarrett, M.D. of Phoenix. The new policy will be published after the full Board meeting in June.

Dates for the Annual Cancer Seminar have been set. They are January 10, 11, and 12th, at the Paradise Inn in Phoenix, Co-Chairmen for the event will be Dr. Edward H. Bregman and Dr. James D. Barger of Phoenix.

The Society wishes to draw all possible attention to Dr. Charles S. Cameron, Medical and Scientific Director of the American Cancer Society, recently published book "The Truth About Cancer".

One of the foremost authorities on the total cancer problem, Dr. Cameron is well known to Arizona physicians.

The Executive Committee has approved a plan for the organizing of local "Units" of the Society in every county in Arizona. As soon as possible this organization will begin. The first step in the plan is to secure the approval of the local Medical Society.

* * *

MUSCULAR DYSTROPHY ASSOCIATION OF AMERICA, INC., Maricopa County Chapter, 4431 North 7th Avenue, Phoenix, Arizona; Pima County Chapter, 743 North Stone Avenue, Tucson, Arizona.

An experimental strain of dystrophic mice soon will be available as an important research tool to scientists everywhere.

The mice named "Funny Feet" for their peculiar walk, inbred since 1951 at the Jackson Memorial Laboratory in Maine, were found by research workers to be suffering from an inherited disorder closely resembling muscular dystrophy in humans.

As probably the first recorded instance in animals of such an inherited muscular involvement, the importance of the discovery was hailed by the MDAA Medical Advisory Board whose chairman is Dr. Ade T. Milhorat.

These dystrophic mice will almost certainly become a basic tool in a new Muscle Research Center, the most significant project undertaken to date by MDAA.

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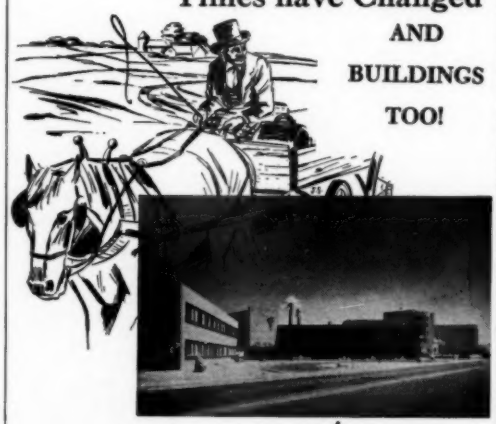

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Notes from the EDITORS PEN

RECOMMENDED READING

Bulletin Vol. 1, No. 6 noted, in part, the ILO's stand in relation to socialization of medicine. MEDICAL ECONOMICS, March, 1956, page 181, carries an article entitled — "Let's Stop Paying the ILO to Socialize Medicine." This is an authoritative presentation by Louis H. Bauer, M. D., former president of the AMA and Secretary General of the World Medical Association (not a UN subsidiary). It again emphasizes the need for opposition to SJ Res 97 which proposes to raise the ceiling for ILO appropriations by the United States.

SOUTHWESTERN MEDICINE, April, 1956 issue carries a timely article on page 223. Authored by Charles E. Oswalt, Jr., MD, of Fort Stockton, Texas, it is entitled, "The Default of the Private Practice of Medicine Through Legislation." YOUR BULLETIN has been dedicated to bringing this to your attention throughout all issues. YOUR FIRST DUTY is to be INFORMED; THEN ACT against the menaces which endanger YOUR practice of medicine under the free enterprise system.

NATIONAL ILLNESS SURVEY — S 3076, HR 8913 (Bill to appropriate money for such survey)

From "Washington News," Modern Medicine, issue of April 15, 1956, we quote: . . . "For years the medical profession — particularly that branch devoted to public health — has been wandering aimlessly through a miscellaneous collection of data on illness, much of it unsound and more of it **limited significance.** . . . So, by now, any national projection on illness is generally regarded as **being worthless."** (emphasis ours)

In view of the reckless abandon with which "statistics" are being tossed around this week on the incidence of mental illness, it might be wise to pause and reflect!

Your Legislative Reporter quotes from a letter dated April 13, 1956 received from Earl S. Pollach, Chief, Hospital Reports and Records Unit, Current Reports Section, Biometric Branch, NATIONAL INSTITUTE ON HEALTH, as follows:

"We would like to point out that information as to the **actual incidence** of mental illness is not available." (emphasis added)

From the Dept. of Health Education and Welfare current reports, Mental Patient Data for fiscal year 1955 reprinted from Public Health Reports, March, 1956, it is hard to reconcile the 560,576 resident patients in mental hospital systems at the end of the fiscal year 1955 with the alleged 9 million suffering from mental and emotional disorders from the literature disseminated by the National Association for Mental Health, Inc. The difference between the National Association's 9 million and the reported patients in all mental hospitals in all states from the Public Health Reports of 560,576, at the end of 1955, makes one wonder where these "statistics" came from. Also from the same Public Health Reports as of March, 1956, we quote:

"There were **3.4** persons hospitalized, on the average, for each **1,000** estimated persons in the civilian population on any given day; this rate varied among the 48 states and the District of Columbia from a low of 1.5 to a high of 8.7. The median rate was 3.0." This makes the 1 in 16 ratio look rather ridiculous, doesn't it? Granted, the 1 in 16 ratio doesn't purport to be "all mentally ill and emotionally disturbed" in hospitals, but one wonders from what source this figure might have come. Are we to assume that there are 8,439,424 mentally ill at large, and if so, who counted them?

On the basis of this mysterious statistic, the National Association for Mental Health states: "At the present rate (?), one out of every 12 children born each year will need to go to a mental hospital sometime during his life because of **severe mental illness."** (emphasis added)

SOCIAL SECURITY ACTION is becoming Bone of Political Contention with Parties Split. Although the Senate Finance Committee has been marking time on HR 7225, politicians in general have been making Social Security hay in this election year. The administration is asking for retention of the status quo with respect to increases in SS tax rates and addition of new benefits, but they are eager to extend coverage because that means increased tax payments **at once** (but more claimants later!).

19TH EDITION AMA DIRECTORY

After 20 months of work, the 19th edition of the American Medical Directory has been completed, and the first copies will be shipped to subscribers during the last week of May.

The edition, the first since 1950, was originally scheduled for publication in 1952, but had to be postponed because the changeover during that period to a dues-paying membership structure in the A.M.A. made it impossible to obtain an accurate list of members of the Association. Work began on the new edition late in 1954, with the sending of information cards to physicians, and Editor Philip E. Mohr, of the A.M.A. Directory Department, says that "it was only with the cooperation of the medical profession and allied organizations that it was possible to bring the Directory up to date and produce a book of this scope."

The new edition contains 3,122 pages, and lists information on 240,638 physicians in the United States, its dependencies, and Canada. It also lists American graduates temporarily located in foreign countries. Since the 1950 Directory, more than 250,000 changes of address have been recorded in the files of the Directory-Biographical Department, 46,348 names have been added, and 24,255 have been deleted because of death, with an additional 1,172 deleted for other reasons.

The Pacific States, as in 1950, show the largest increase in physicians for 1956, with a gain of 23 per cent over the 1950 figures; the South Atlantic and Mountain States show gains of about 16 per cent, and the Central, Middle Atlantic and New England States show small gains. California leads in the number gained, with 20,763 physicians in 1956 as compared with 16,668 in 1950, a gain of 24.6 per cent. Florida, showing a gain of 49.8 per cent, now has 4,530 physicians as compared with 3,025 in 1950. Texas shows a gain of 1,026 physicians; Ohio a gain of 990; Michigan, 963; and New York, 934. Among the smaller states showing a substantial increase in the number of physicians are Arizona, New Mexico, Oregon and Utah. Slight losses in the number of physicians are indicated in Arkansas, Illinois, Iowa, Missouri, Vermont, and West Virginia.

Statistical information given in the Directory includes a table showing the number of physicians by states classified as to type of practice. The figures given indicate that 30 per cent of the physicians in the United States are in general practice; 10 per cent give special attention to a specialty but do not limit their practice to it; 31 per cent limit their practice to a specialty; 11 per cent are serving internships or residencies, with an additional 6 per cent in other full-time hospital services; 5 per cent are retired or not in practice; 4 per cent are not in private practice and 3 per cent are temporarily in military service or serving in various government agencies.

The price of the Directory is $30 a copy. Orders can be placed by writing to Philip E. Mohr, Editor of the Directory, American Medical Association, 535 North Dearborn Street, Chicago 10.

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TONIKO KAMAMURA

Toniko applied for a Loan this Spring. She was one of those qualifying for our loan. She will enroll in St. Joseph's School of Nursing this Fall. She writes that she believes firmly that it will be a great achievement to receive her R.N. After this, she hopes to work in a hospital for at least 3 years and then she would like to further her ambitions in more work in College.

THE STUDENT NURSE LOAN FUND

Mrs. Donald A. Polson
Student Nurse Loan Fund Chairman
Phoenix, Arizona

UR STUDENT Nurse Loan Fund is progressing! To date, we have provided loans for thirty nurses, and this Fall an additional three students will receive loans from the Auxiliary, enabling them also to establish nursing careers. In September 1956, when the new students have enrolled in nursing school, funds totalling $9,500.00, will have been circulated and thirty-three girls will have been assisted by these funds. Each year a small portion of this money is returned to us in repayments of loans by our graduate nurses. This money then re-circulates to assist new students. In 1955, we were able to finance eight qualifying applicants for the loan. This is the greatest number of nurses to whom we have been able to grant loans.

The group pictures as shown, present the student nurses receiving the scholarship loan who are now in nursing school. However, owing to the fact that space is limited it is not possible to print a photograph of each of the graduate nurses. Two graduate nurses have been chosen to illustrate here the wonderful example of girl who has made use of the Fund, and the third picture introduces a student who will receive our scholarship loan in the Fall, when she enrolls in nursing school.

BELEN ALVIDREZ, R.N.

Belen graduated from Good Samaritan Hospital in 1955. She comes from Tucson. She wrote to say that she is doing general duty at the Pima County Hospital and attending night school at the University of Arizona. She hopes to be able to enter U.C.L.A. in the Fall where she wishes to obtain a degree in Nursing Education.

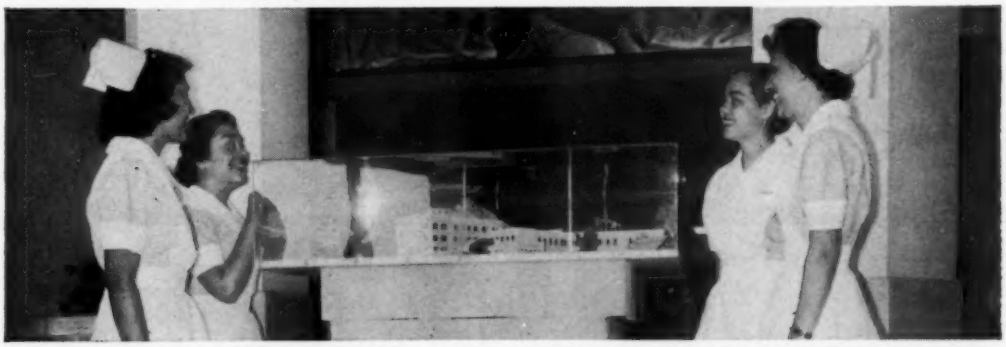
JOAN NASSER, R.N.

Joan graduated from St. Joseph's School of Nursing in 1954. She is a native of Miami. At this time she has a place in the Miami Inspiration Hospital, where she plans to remain for a few more months. After this, she plans to return to Nazareth Sanitarium, Albuquerque, for more experience in Psychiatric Nursing, or go back to College to work on a B.S. degree. She says at the moment she is "learning the ropes" in surgery so that she will be qualified to relieve and take call for the surgical nurse in Miami Inspirational Hospital.

GOOD SAMARITAN SCHOOL OF NURSING, PHOENIX, ARIZONA

L. to R.; Back Row: Miss Rosalea Kirts, Tucson; Miss Louise Devoley, Phoenix; Miss Virginia Gallardo, Tucson; Miss Nancy Wilcox. Sr. Yr., Tucson; L. to R.; Front Row: Miss Beverly Wilson, Phoenix: Miss Edna Niccum, Glendale; Miss Peggy Nunnelly, Chandler; Miss Eleanor Garcia, Sr. Yr., Prescott. The Director of Good Samaritan Nursing Education, Mrs. Boan, tells us that all these students are well adapted to their career and that an overall high standard has been maintained by each one.

ST. JOSEPH'S SCHOOL OF NURSING, PHOENIX, ARIZONA



L. to R.: Miss Lois Ann Enos, Laveen; Miss Mary Louise Jaquez, Clifton; Miss Myra Higgins, Prescott; Miss Lydia Zuniga, Miami; Miss Barbara Bieger, Phoenix was not able to be present for this picture. Sister Mary Christine reports that these students are progressing exceptionally well. Each girl expresses tremendous ambition in her future career as a registered nurse. The girls are shown standing around the model for the new nurses quarters to be built for St. Joseph's Hospital in the near future.

ST. MARY'S SCHOOL OF NURSING, TUCSON, ARIZONA

L. to R.: Miss Sylvia Espinoza, Nogales; Miss Hannah Eckstrom, freshman, Tucson; Miss Frances Zappia, Clifton; Miss Cecilia Fuentes, Sr., Douglas. Sister Helen Frances, Director of Nurses, tells us that these girls are interested and enthusiastic about their work and above average students.

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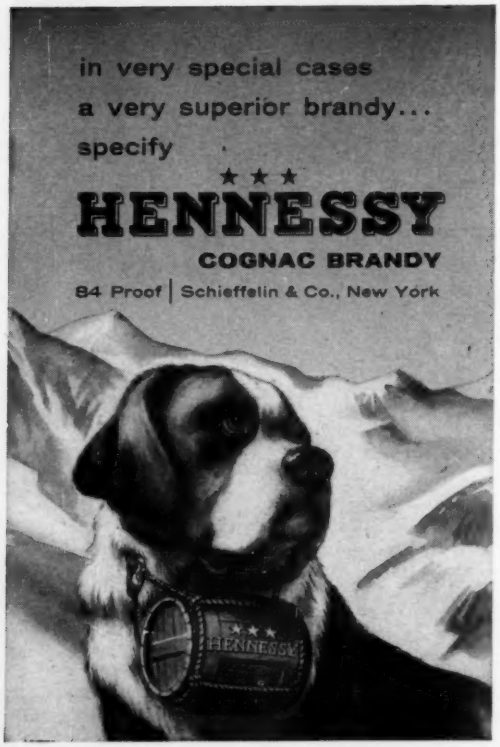

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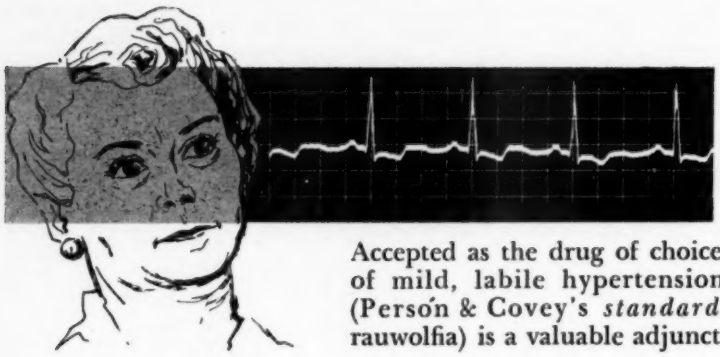

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[1] The New England Journal of Medicine 253:395, September, 1955.

[2] American Journal of Medical Science 229:379, April, 1955.

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